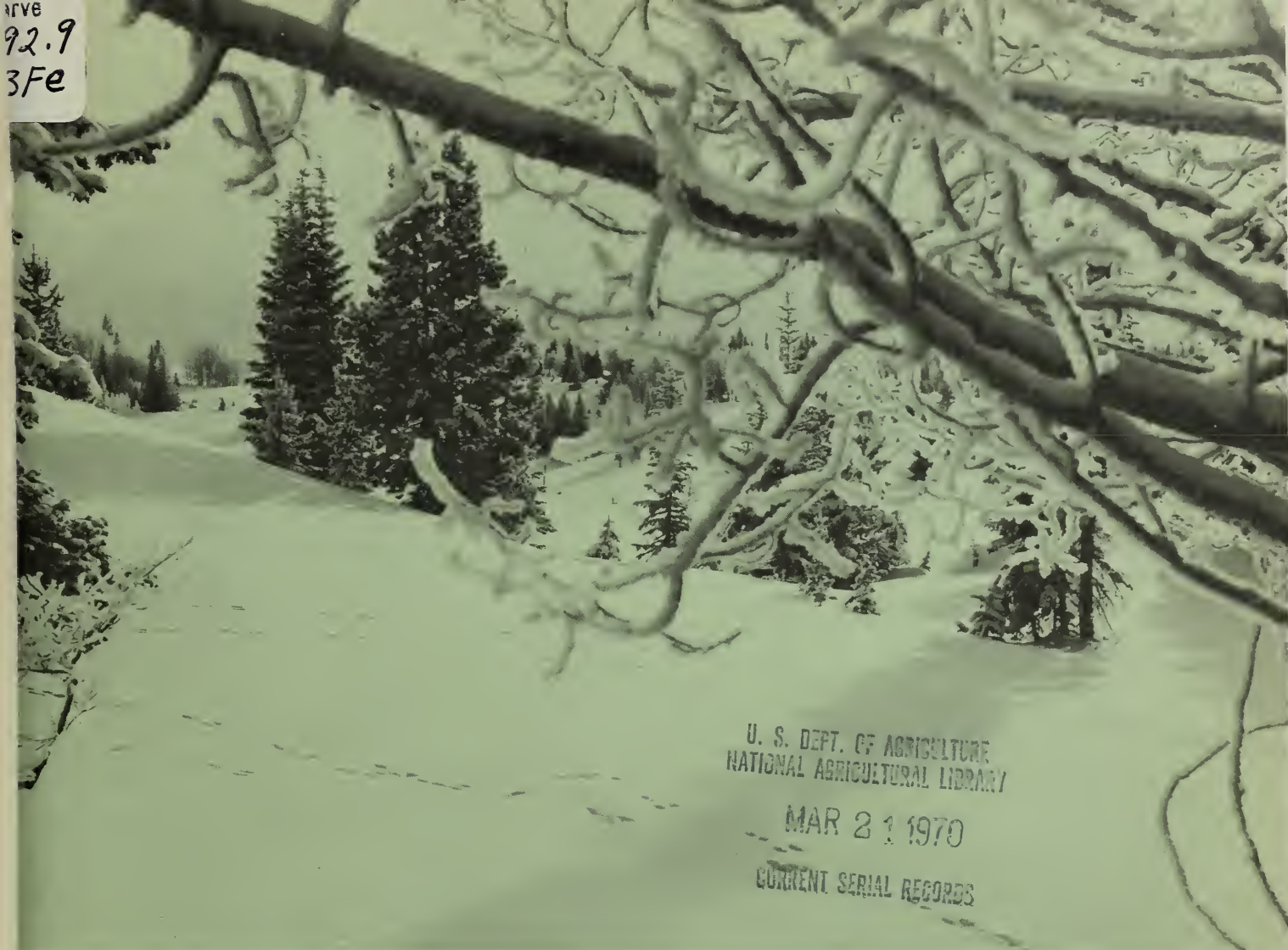


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MAR 21 1970

CURRENT SERIAL RECORDS

# ***WATER SUPPLY OUTLOOK FOR WASHINGTON***

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,

and

DEPARTMENT of WATER RESOURCES STATE of WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, and other Federal, State and Private organizations.

AS OF  
MAR. 1, 1970

## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

### PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82601

### PUBLISHED BY OTHER AGENCIES.

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia





# **WATER SUPPLY OUTLOOK FOR WASHINGTON**

and  
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

*Issued by*

KENNETH E. GRANT  
ADMINISTRATOR  
SOIL CONSERVATION SERVICE  
WASHINGTON, D.C.

|||||

*Released by*

ORLO W. KRAUTER  
STATE CONSERVATIONIST  
SOIL CONSERVATION SERVICE  
SPOKANE, WASHINGTON

*In Cooperation with*

H. MAURICE AHLQUIST  
DIRECTOR  
DEPARTMENT OF WATER RESOURCES  
STATE OF WASHINGTON

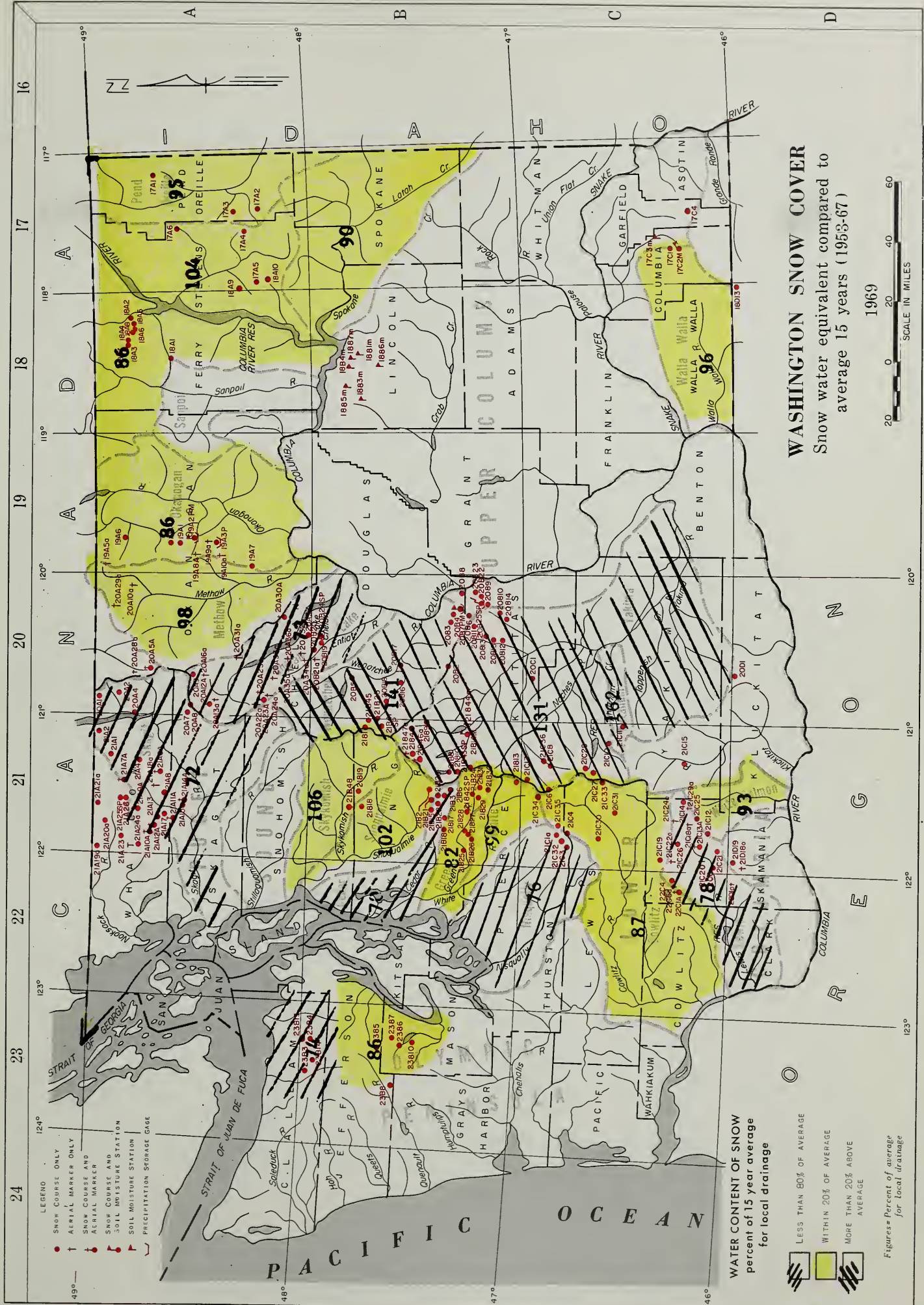
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*Report prepared by*

ROBERT T. DAVIS, Snow Survey Supervisor

SOIL CONSERVATION SERVICE  
360 U.S. COURTHOUSE  
SPOKANE, WASHINGTON 99201







# INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS AND PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
<b>UPPER COLUMBIA DRAINAGE</b>					
<b>Pend Oreille River</b>					
Boyer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970
<b>Kettle River</b>					
Boulder Road	18A2	36	30N	34E	1450
Butte Creek	18A3	28	30N	35E	4070
Cabin Creek	18A3	5	30N	36E	3170
Goat Creek	18A4	26	30N	34E	3505
Snow Caps Creek	18A5	3	30N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit C. S.	18A7	20	30N	35E	4600
<b>Colville River</b>					
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4950
Togo	18A10	6	29N	38E	3370
<b>Sanpoil River</b>					
Sherman Creek Pass	18A1	19	36N	35E	5350
<b>Okanogan River</b>					
Clark	19A8A	2	36N	23E	7000
Muckamuck	19A9A	20	36N	24E	6750
Mutton Creek No. 1	19A1	30	37N	24E	5700
Mutton Creek No. 2	19A1	37	37N	24E	6000
Pagaylen	20A28A	32	40N	13E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2PM	13	37N	24E	4500
Starvation Mtn.	19A10A	35	35N	23E	6750
Touts Coulee	19A6	30	39N	25E	2845
<b>Methow River</b>					
Billy Goat Pass	20A10A	10	38N	20E	6400
Dollar Watch	20A29A	8	39N	20E	7000
Harts Pass	20A5A	7	37N	18E	6500
Horseshoe Basin	19A5A	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650
<b>Chelan Lake Basin</b>					
Cloudy Pass	20A22A	12	31N	15E	6500
Greenwood Flat	20A25A	3	31N	16E	5400
Little Meadows	20A24A	8	31N	16E	5275
Lyman Lake	20A23A	18	31N	16E	5900
Park Creek Flat	20A13A	18	34N	16E	2220
Park Creek Ridge	20A12A	7	34N	16E	4600
Petersons	20A16A	3	34N	17E	3730
Rainy Pass	20A9	21	35N	17E	4780
Safety Harbor	20A30A	32	31N	20E	6300
War Creek Pass	20A31A	34	33N	18E	6500
<b>Entiat River</b>					
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33A	28	31N	17E	4800
Entiat River Trail	20A34A	2	29N	17E	3150
Fox Camp	20A36A	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	4300
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	4300
Pugh Ridge	20A32A	34	30N	18E	6400
Shady Pass	20A37	20	30N	19E	6200
Snow Brushy	20A35A	21	30N	17E	3850
Tommy Creek	20B21A	10	28N	18E	5300
<b>Wenatchee River</b>					
Berne-Mill Creek	21B23	7	26N	15E	2925
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blevett Pass No. 2	20B2	35	25N	17E	4270
Chitvaumuk C. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B3	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	28N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310
<b>LOWER COLUMBIA DRAINAGE</b>					
<b>Asotin Creek</b>					
Spruce Springs	17C4	9	8N	42E	5700
<b>Mill Creek</b>					
Couse	17C3M	2	9N	35E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmets SW)	17C2M	23	9N	40E	4400
Walla Walla Division	18D13	22	6N	38E	2400
<b>Klickitat River</b>					
Satus Pass	20D1	21	6N	17E	4030
West Fork Cabin	21C15	23	9N	12E	3000
<b>White Salmon River</b>					
Cultus Creek	21C12	35	7N	8E	4000
<b>Lewis River</b>					
Blue Lake	21C22A	19	9N	8E	4800
Bob's Trail	21C21	25	8N	7E	2200
Calamity Ridge	22D1A	8	5N	5E	2500
Council Pass	21C18A	24	9N	9E	4200
<b>White River</b>					
Cultus Creek	21C12	35	7N	8E	4000
<b>Snoqualmie River</b>					
Alpine Meadow	21B48	31	27N	9E	3500
Ollalie Meadows	21B2	19	22N	11E	3625
South Fork Tolt	21B18	26	26N	9E	1900
<b>Skykomish River</b>					
Lake Elizabeth	21B19	33	26N	10E	2900
<b>White River</b>					
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16	31	22N	9E	2500
Mt. Washington	21B15	8	22N	9E	3000
Rex River	21B17	11	21N	9E	2400
South Fork Cedar	21B6	24	21N	10E	3000
Tinkham Creek	21B20	1	21N	10E	3400
<b>Green River</b>					
Airstrip	21B24	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Crass Mountain No. 1	21B26	21	20N	8E	4000
Crass Mountain No. 2	21B27	14	20N	8E	2900
Crass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10	25	21N	11E	3000
Twin Camp	21B30	18	19N	11E	4100
<b>White River</b>					
Corral Pass	21B13	30	18N	11E	6000
White River Campground	21C34	4	16N	9E	
<b>Nisqually River</b>					
Ghost Forest	21C4	23	15N	8E	4550
Longmire	21C3	29	15N	8E	2760
Paradise Park (New)	21C35	13	15N	8E	5050
Stem Glade	21C1	13	15N	8E	5050
<b>Puget Sound Drainage</b>					
<b>White River</b>					
Corral Pass	21B13	30	18N	11E	6000
White River Campground	21C34	4	16N	9E	
<b>Green River</b>					
Airstrip	21B24	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Crass Mountain No. 1	21B26	21	20N	8E	4000
Crass Mountain No. 2	21B27	14	20N	8E	2900
Crass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10	25	21N	11E	3000
Twin Camp	21B30	18	19N	11E	4100
<b>Cedar River</b>					
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16	31	22N	9E	2500
Mt. Washington	21B15	8	22N	9E	3000
Rex River	21B17	11	21N	9E	2400
South Fork Cedar	21B6	24	21N	10E	3000
Tinkham Creek	21B20	1	21N	10E	3400
<b>Skagit River</b>					
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A5	9	39N	12E	3620
Deville Park	20A4	34	38N	16E	5900
Freezout Creek Trail	20A2	14	40N	14E	5000
Freezout Meadows	20A2	8	40N	16E	5000
Lake Hozomeen	21A2	19	40N	14E	2600
Meadows Cabins	20A8	29	36N	14E	1900
Thunder Basin	20A7	15	35N	14E	4200
<b>Baker River</b>					
Dock Butte	21A1A	8	36N	8E	3900
Easy Pass	21A1A	19	39N	11E	5200
Jasper Pass	21A6A	17	36N	11E	5400
Komo Kulsum	21A17	31	37N	9E	800
Marven Lake	21A9A	23	35N	8E	3600
Mount Blum	21A18A	27	35N	10E	5800
Rocky Creek	21A12A	20	37N	8E	2100
Schreibers Meadow	21A10A	18	37N	8E	3400
S. F. Thunder Creek	21A1A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8	25	37N	9E	4500
<b>Nooksack River</b>					
Bald Mountain	21A19A	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	4700
Mazama Park	21A24A	2	37N	7E	3500
Panorama New	21A26	17	39N	9E	4300
Panorama Snow Pillow	21A25SP	17	39N	9E	4300
Twin Lakes	21A21A	16	40N	9E	5200
<b>Dungeness River</b>					
Deer Park	23B4	1	28N	5W	5200
<b>Morse Creek</b>					
Cox Valley	23B14	29	23N	6W	4850
Deer Park G. S.	23B13	1	28N	5W	
<b>Elwha River</b>					
Hurricane	23B3	36	29N	7W	4500
<b>Skokomish River</b>					
Black and White	23B7	17	24N	5W	4200
Black and White Lakes	23B6	16	24N	5W	4700
Four Stream	23B10	1	23N	6W	3000
Home Sweet Home	23B5	28	25N	5W	5200
Sundown Pass	23B8	25	24N	7W	3900

LEGEND

NUMERING SYSTEM EXAMPLE

21A7 SNOW COURSE ONLY

21A7A AERIAL MARKER ONLY

21A7A SNOW COURSE-AND AERIAL MARKER

21A7M SNOW COURSE AND SOIL MOISTURE STATION

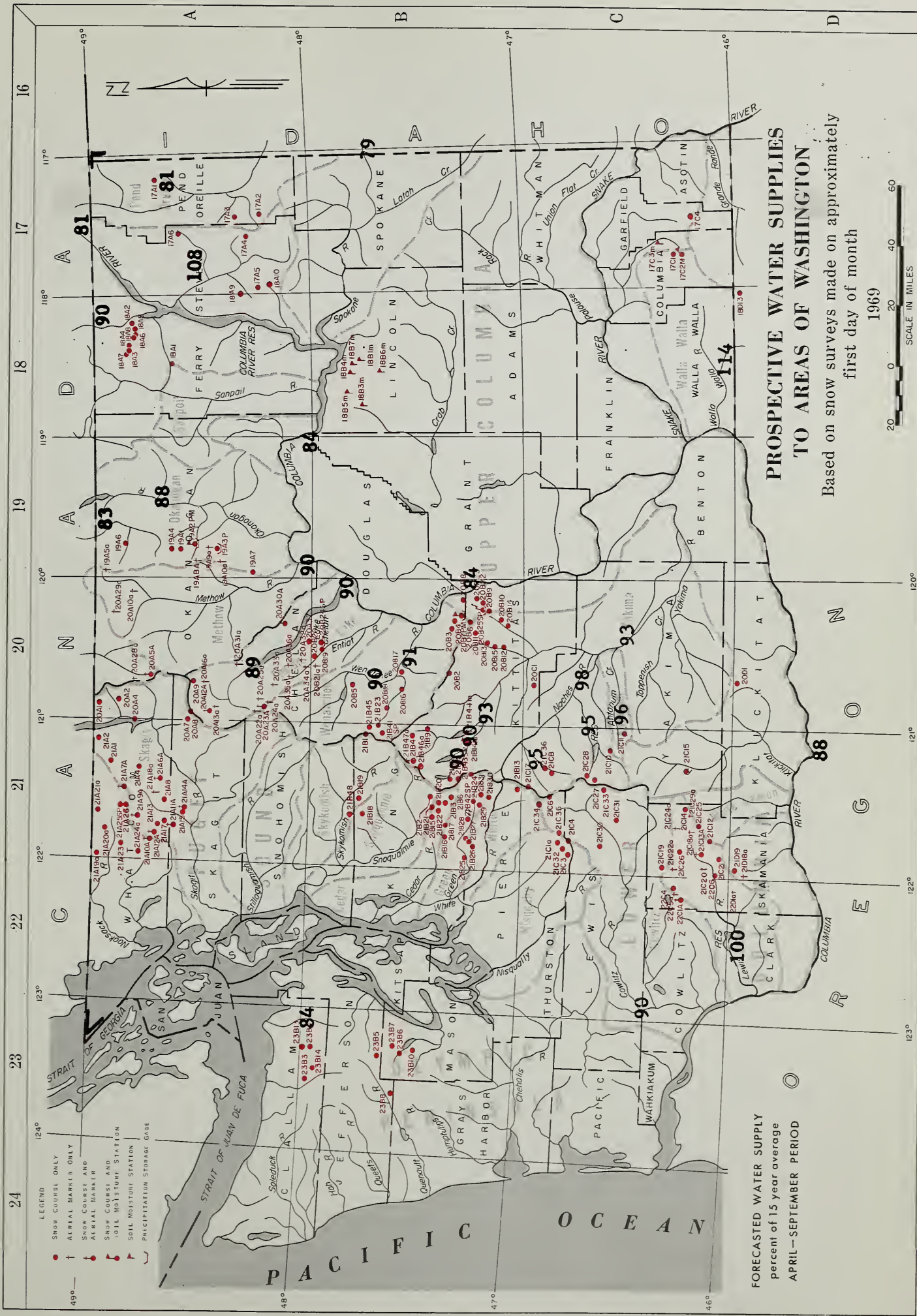
21A7P SOIL MOISTURE STATION

21A7P SNOW COURSE AND PRECIPITATION STORAGE GAGE

21A7P PRECIPITATION STORAGE GAGE

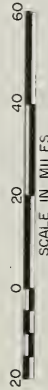
21A7SP SNOW PILLON





# PROSPECTIVE WATER SUPPLIES TO AREAS OF WASHINGTON

Based on snow surveys made on approximately  
first day of month  
1969



FORECASTED WATER SUPPLY  
percent of 15 year average  
APRIL - SEPTEMBER PERIOD

INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

UPPER COLUMBIA DRAINAGE																	
NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Pend Oreille River																	
Boyer Mountain	17A2	7	31N	43E	5250	Clockum Creek No. 2	20A29	11	20N	20E	5000	Divide Meadow	21C29a	21	9N	10E	5600
Bunchgrass Meadow	17A1	24	37N	44E	5000	Clockum Creek No. 1	20A28	11	20N	20E	4700	Grand Meadow	21C25	22	8N	9E	3500
Winchester Creek	17A3	30	33N	43E	2970	Squitchuck Creek	20A23	1	20N	20E	4300	Lone Pine Shelter	21C26	8	9N	7E	3500
Kettle River																	
Boulder Road	18A2	36	39N	36E	1450	Beehive Springs	20B3	12	21N	19E	4400	Marble Mountain	22C5a	24	8N	5E	3200
Butte Creek	18A3	28	39N	35E	4070	Scout-A-Vista	20B4	1	21N	20E	3400	New Muddy River	22C6	36	8N	6E	2000
Cabin Creek	18A4	5	38N	36E	3170	Jump-off	20B8	34	21N	20E	4450	Oldman Pass	21D19	22	6N	7E	3100
Goat Creek	18A5	26	39N	35E	3595	Sewall Slide	20B6	30	21N	20E	5000	Plains of Abraham	22C1a	35	9N	5E	4100
Snow Caps Creek	18A5	3	38N	36E	2150	Upper Wheeler	20B7N	30	21N	20E	4400	Smith Creek Road	22C1b	35	9N	6E	2100
Snow Caps Trail	18A6	5	38N	36E	2720	Creston-Kunz	20B7N	30	21N	20E	4400	Spencer Meadow	21C20a	16	8N	7E	3400
Summit G. S.	18A7	20	39N	35E	4600	Jack Woods	18B1m	32	27N	34E	2440	Surprise Lakes	21C21a	14	7N	8E	4200
Colville River																	
Baird	17A6	19	36N	42E	3215	Krause	18B3m	28	27N	31E	2750	Timbered Peak	21D18a	36	6N	6E	3000
Carlson	18A9	34	32N	38E	2885	18B4m	21	27N	33E	2420	Cowlitz River						
Chewelah	17A4	11	32N	41E	4925	18B5m	17	27N	32E	2378	21C6	15	16N	10E	5300		
Stranger Mountain	17A5	26	31N	38E	4990	18B7m	24	27N	33E	2440	21C19	33	10N	7E	4100		
Togo	18A10	6	29N	38E	3370	18B6m	24	25N	32E	2290	21C32	28	15N	10E	2200		
Sanpoil River																	
Sherman Creek Pass	18A1	19	36N	35E	5350	Yakima River					21C31	21	13N	10E	2870		
Okanogan River																	
Clark	19A8a	2	36N	23E	7000	21C11	26	12N	14E	3100	Pigtail Peak	21C33	11	13N	11E	5900	
Muckamuck	19A9a	20	36N	24E	6750	21B9	35	23N	14E	3200	Potato Hill	21C34	36	10N	10E	4500	
Nutton Creek No. 1	19A1	30	37N	24E	5700	21C8	13	16N	12E	3450	William Creek	21C30	3	13N	8E	3250	
Nutton Creek No. 2	19A2	19	37N	24E	6000	21C36	13	16N	12E	3400							
Paysayten	20A28a	32	40N	18E	4300	Clockum Pass	20B9	25	20N	20E	5370						
Rusty Creek	19A3P	18	35N	24E	4000	Cooke Creek	20B10	17	19N	20E	4123						
Salmon Meadows	19A2FM	33	37N	24E	4500	Domery Flat	21B44m	15	20N	14E	2200						
Starvation Mtn.	19A10a	15	35N	23E	6750	Fish Lake	21B4	34	24N	14E	3371						
Touts Coulee	19A6	30	39N	25E	2845	Green Lake	21C10	3	12N	13E	6000						
Methow River																	
Billy Goat Pass	20A10a	10	38N	20E	6400	Grouse Camp	20B12	34	20N	19E	5385						
Dollar Watch	20A29a	8	39N	20E	6500	High Creek	20B11	34	20N	19E	5385						
Harris Pass	20A5A	7	37N	18E	6500	Joe Lake	21B14a	22	23N	12E	4624						
Horseshoe Basin	19A5a	15	40N	23E	7000	Lake Cle Elum	21B14m	15	20N	14E	2200						
Loup Loup	19A7	36	34N	23E	4650	Leman Creek	21B47a	7	23N	13E	3327						
Chelon Lake Basin																	
Cloudy Pass	20A22a	12	31N	15E	6500	Mannastash	20C21	24	17N	16E	3935						
Greenwood Flat	20A25a	3	31N	16E	3540	Morse Lake	21C17	6	16N	11E	5400						
Little Meadows	20A24a	8	31N	16E	5275	Nanum	20B13	4	20N	19E	3875						
Lyman Lake	20A23a	18	31N	16E	5900	Trail Creek	20B14	20	19N	20E	3360						
Park Creek Flat	20A13a	18	34N	16E	2220	Tunnel Avenue	21B8	13	21N	11E	2450						
Park Creek Ridge	20A12a	7	34N	16E	4600	Walters Flat	20B15	22	20N	19E	3360						
Petersons	20A16a	3	34N	17E	3730	White Pass (East Side)	21C28	2	13N	11E	4500						
Rainy Pass	20A0a	21	35N	17E	4780	White Pass (Leach Lake)	21C27	1	13N	11E	4500						
Safety Harbor	20A30a	32	31N	20E	6300												
War Creek Pass	20A34a	34	33N	18E	6500												
Enriat River																	
Brief	20B19	34	28N	19E	1600	Asotin Creek	17C4	9	8N	42E	5700						
Entiat Meadows	20A33a	26	31N	17E	4800	Mill Creek											
Entiat River Trail	20A34a	2	29N	17E	3150	17C3m	2	9N	35E	3370							
Fox Camp	20A36a	17	30N	18E	6510	17C1	11	9N	40E	4030							
Pope Ridge	20B20	22	29N	18E	4300	Homestead	17C2M	23	9N	40E	4400						
Pope Ridge Snow Pillow	20B22SP	22	29N	18E	4300	Wallia Walla Diverison	18D13	22	6N	36E	2400						
Pugh Ridge	20A32a	34	30N	18E	6400	Klickitat River											
Shady Pass	20A37	20	29N	19E	6200	20D1	21	6N	17E	4030							
Snow Brushy	20A35a	21	30N	17E	3850	West Fork Cabin	21C15	23	9N	12E	3000						
Tommy Creek	20B21a	10	28N	18E	5300	Cultus Creek	21C12	35	7N	8E	4000						
Wenatchee River																	
Berne-Mill Creek	21B23	7	26N	15E	2925	White Salmon River											
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240	21C12	35	7N	8E	4000							
Blavett Pass No. 2	20B2	35	22N	17E	4270	Lewis River											
Chiwaukum G. S.	20B16	4	25N	17E	1810	21C22a	19	9N	8E	4800							
Lake Wenatchee	20B5	33	27N	17E	1127	21C21	25	5N	7E	2200							
Leavenworth R. S.	20B17	1	24N	17E	1127	21C21a	25	5N	7E	2200							
Merritt	20B18	4	26N	16E	2140	21C21b	25	5N	7E	2200							
Stevens Pass	21B1	14	26N	13E	4070	21C21c	25	5N	7E	2200							
Stevens Pass Sand Shed	21B45	12	26N	19E	3700	21C21d	25	5N	7E	2200							
Trough #2	20B25SP	10	20N	20E	5310	21C21e	25	5N	7E	2200							



## WATER SUPPLY OUTLOOK

State of Washington  
March 1, 1970

\*\*\*\*\*  
\* There has been a general deterioration of the snowpack on the water- \*  
\* sheds in the state of Washington and tributary streams. As a result \*  
\* of this the water supply outlook for irrigation and power can now be \*  
\* considered adequate. Snow surveys made in the state and adjacent \*  
\* areas indicate the snowpack now ranges from a high of 62 percent \*  
\* above normal down to 30 percent below normal. The snowpack on the \*  
\* eastern half of the state is much better than that in the Puget Sound \*  
\* drainage with above-normal cover still reported in the Wenatchee- \*  
\* Yakima areas. Generally speaking, the snow cover at the higher ele- \*  
\* vations along the Cascade crest shows the influence of this poor snow \*  
\* condition on the west side while the areas at lower elevations east \*  
\* of the Cascades have the above-normal snowpacks. Also, the situa- \*  
\* tion is much improved in Washington than in tributary basins in \*  
\* British Columbia. Precipitation was above normal only in two areas \*  
\* in the state--northeast and southwest Washington, with the greater \*  
\* amounts falling in the Blue Mountain area. \*  
\*  
\* Reservoirs generally have less amounts of water in storage for this \*  
\* time of year but no shortages are expected with normal subsequent \*  
\* precipitation during the filling period. The soil mantle at the \*  
\* lower elevations is generally in excellent condition as a result of \*  
\* early winter melting of this low-elevation snowpack. During the \*  
\* month of February the runoff varied from a high of 42 percent above \*  
\* normal for the Walla Walla River as measured near Touchet to a low \*  
\* of 54 percent of normal for the Okanogan near Tonasket. \*  
\*\*\*\*\*

### SNOW COVER

The only basins with above-normal snow cover are the Colville, Entiat, Wenatchee, Yakima, Ahtanum, Snoqualmie, and Skykomish. The two basins on the west side are measured primarily by high-elevation Cascade crest snow courses with the subsequent above-normal snowpack. The situation west of the Cascades is generally much poorer than is experienced on the east side. Low-elevation snowpacks west of the Cascades have little or no snow cover as of the first of March with the only good snowpacks being measured at the higher elevations. East of the Cascades the snow cover is uniform throughout all elevation area zones.

### RESERVOIRS

The irrigation reservoirs in the state have only 47 percent of capacity in stored water as of March 1 where the average for this time of year is 64 percent. The main power reservoirs, with the exception of Lake Roosevelt, have less water in storage than average for this time of year. It is anticipated that there will be sufficient runoff in all areas to fill these reservoirs during the runoff period. This is on the assumption of normal antecedent climatic conditions.





## PRECIPITATION

As reported by the Weather Bureau precipitation for the winter months of November through February is below normal again with the exception of southeastern Washington. During the month of January all drainage divisions reported well above-normal precipitation again with the exception of the Columbia in Canada. There was marked deterioration in the precipitation period in February with only the eastern part of the state reporting above-normal conditions. In Canada the Columbia drainage division had only 29 percent of normal precipitation during February.

## SOIL MOISTURE

Since the reading on the first of February there has been a marked increase in soil moisture conditions throughout the state and tributary areas. Low-elevation snow melt has accounted for most of this increase. While the soil is not wetted to field capacity it is anticipated that most of the remaining snowpack will be available for spring runoff.

## STREAMFLOW

Forecasts of streamflow for the April-September period range from a high of 14 percent above normal to a low of 19 percent below. The lower forecasted streamflow amounts occurred primarily on the main stem of the Columbia River. The influence of the high forecasted amounts out of the lower Snake River drainage accounts for the increase, percentagewise, of the Columbia River as measured below Rock Island Dam to The Dalles. A detailed tabulation of stream flow forecasts can be found on the following pages so will not be repeated here. During the month of February streamflow was generally below normal with only a few stations reporting normal or above water flows.



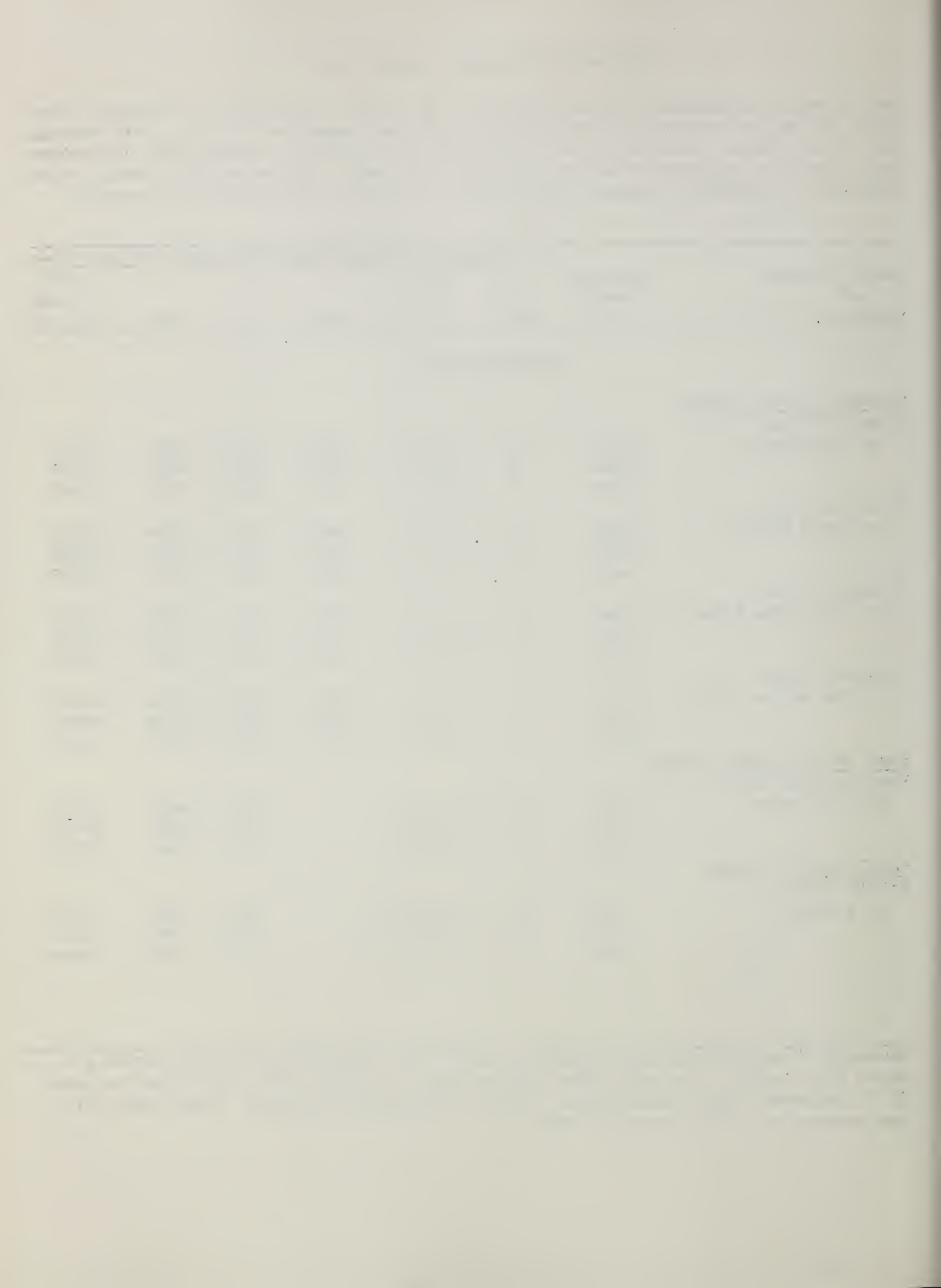


# STREAMFLOW FORECASTS - MARCH 1970

The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. Streamflow figures for 1969 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1970	% 15-Yr Avg.	Fore- cast Period	Seasonal Streamflow in Thousands of Acre-Feet			
				1969	1968	1967	15-Yr Average 1953-67
<u>COLUMBIA BASIN</u>							
<u>Columbia River System</u>							
<u>Columbia River</u>							
at Birchbank <u>1/</u>	38500	81	Apr-Sep	49744	47785	54005	47657
	29900	80	Apr-Jul	40549	37092	42969	37489
	20200	75	Apr-Jun	32212	25280	30604	27049
<u>Columbia River</u>							
at Grand Coulee	58250	84	Apr-Sep	74687	63784	73739	69466
	49000	83	Apr-Jul	65696	51685	63282	58909
	36400	79	Apr-Jun	54604	38183	48697	45899
<u>Columbia River</u>							
bl Rock Island Dam <u>1/</u>	64000	84	Apr-Sep	80257	70298	82547	75942
	52500	81	Apr-Jul	71039	57403	71130	64572
	40500	81	Apr-Jun	59289	42326	54559	50195
<u>Columbia River</u>							
at The Dalles, OR <u>1/</u>	93200	88	Apr-Sep	108959	89008	109176	105228
	78000	87	Apr-Jul	96628	72494	94408	90094
	62200	86	Apr-Jun	82719	55499	74179	72446
<u>Pend Oreille River System</u>							
<u>Pend Oreille River</u>							
bl Box Canyon	12950	81	Apr-Sep		12895	16492	15990
	11750	80	Apr-Jul		11020	15587	14770
	9800	77	Apr-Jun		9391	13362	12745
<u>Kettle River System</u>							
<u>Kettle River</u>							
nr Laurier	1730	90	Apr-Sep		1851	1923	1918
	1640	90	Apr-Jul		1720	1891	1821
	1490	91	Apr-Jun		1560	1750	1644

Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.



# Streamflow Forecasts - March 1970 (Cont.)

Basin, Stream and Station	Forecast Runoff 1970	% 15-Yr. Avg.	Fore- cast Period	Seasonal Streamflow in Thousands of Acre-Feet			15-Yr. Average 1953-67
				1969	1968	1967	
<b>Kettle River System (Cont.)</b>							
Colville River							
at Kettle Falls	165	108	Apr-Sep		63	129	153
	153	109	Apr-Jul		54	123	141
	142	108	Apr-Jun		50	116	131
<b>Spokane River System *</b>							
Spokane River							
at Post Falls ID 2/	2500	79	Apr-Sep		1681	2811	3151
	2400	79	Apr-Jul		1577	2752	3055
	2300	79	Apr-Jun		1487	2618	2913
<b>Okanogan River System**</b>							
Similkameen River							
nr. Nighthawk	1270	83	Apr-Sep		1449	1678	1525
	1200	85	Apr-Jul		1359	1607	1419
	1040	87	Apr-Jun		1158	1396	1197
Okanogan River							
nr. Tonasket	1530	88	Apr-Sep		1567	1822	1738
	1390	88	Apr-Jul		1429	1740	1578
	1300	90	Apr-Jun		1202	1513	1318
<b>Methow River System**</b>							
Methow River							
nr. Pateros	950	90	Apr-Sep		973	1256	1054
	880	90	Apr-Jul		906	1198	981
	750	90	Apr-Jun		767	1034	834
<b>Chelan River System</b>							
Chelan River							
at Chelan 3/	1140	90	Apr-Sep		1224	1366	1266
	1030	92	Apr-Jul		1068	1231	1119
	820	94	Apr-Jun		798	966	870
Stehekin River							
at Stehekin	800	89	Apr-Sep		868	1004	904
	690	89	Apr-Jul		735	868	772
	540	92	Apr-Jun		535	674	586

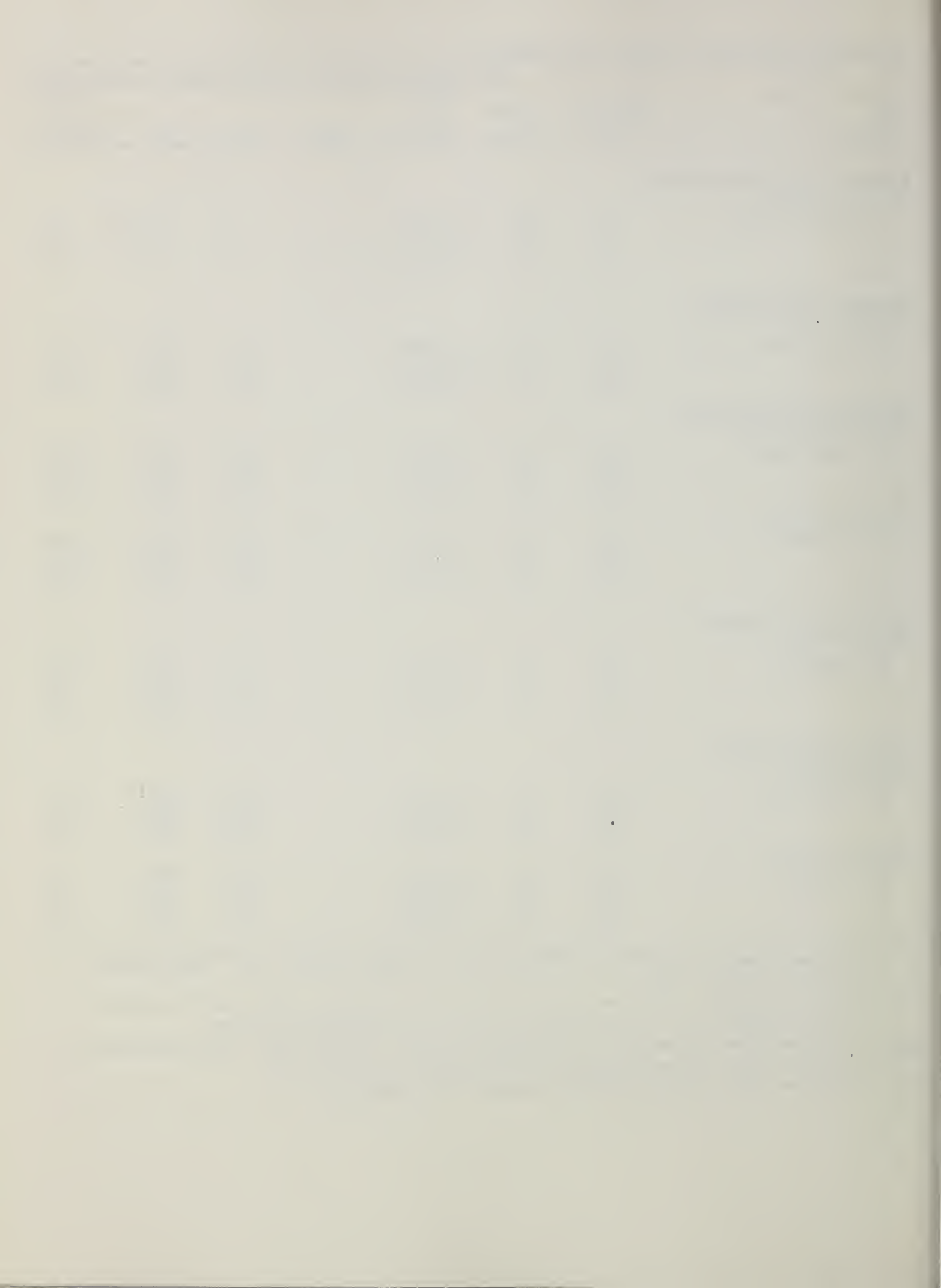
\* Forecasts made by Morlan W. Nelson and J. Alden Wilson, Soil Conservation Service, Boise, Idaho.

\*\* These forecasts are based in part upon base flow data especially prepared and furnished for this purpose by the U. S. Geological Survey.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.





Streamflow Forecasts - March 1970 (Cont.)

Basin, Stream and Station	Forecast Runoff 1970	% 15-Yr. Avg.	Fore- cast Period	Seasonal Streamflow in Thousands of Acre-Feet			15-Yr. Average 1953-67
				1969	1968	1967	
<u>Wenatchee River System</u>							
Wenatchee River							
at Plain	1200	90	Apr-Sep		1163	1324	1333
	1100	91	Apr-Jul		1028	1213	1204
	900	95	Apr-Jun		812	955	952
Wenatchee River							
at Peshastin	1650	91	Apr-Sep		1526	1797	1814
	1520	92	Apr-Jul		1355	1662	1651
	1250	95	Apr-Jun		1087	1326	1316
Stemilt Basin							
nr. Wenatchee	130	--	May-Sep			146*	--
<u>Yakima River System</u>							
Yakima River							
nr. Martin <u>4/</u>	130	90	Apr-Sep		97	115	145
	120	90	Apr-Jul		79	113	134
	107	92	Apr-Jun		73	102	116
Yakima River							
at Cle Elum <u>5/</u>	900	93	Apr-Sep		695	868	968
	830	94	Apr-Jul		589	801	885
	740	97	Apr-Jun		510	695	762
Yakima River							
nr. Parker <u>6/</u>	1650	93	Apr-Sep			1543	1772
	1640	94	Apr-Jul			1584	1752
	1550	96	Apr-Jun			1480	1608
Kachess River							
nr. Easton <u>7/</u>	115	90	Apr-Sep		76	100	128
	110	90	Apr-Jul		66	98	122
	100	93	Apr-Jun		62	90	107
Cle Elum River							
nr. Roslyn <u>8/</u>	440	90	Apr-Sep		358	431	485
	410	92	Apr-Jul		311	405	445
	350	94	Apr-Jun		264	347	373
Bumping River							
nr. Nile <u>9/</u>	142	95	Apr-Sep		105	145	150
	131	95	Apr-Jul		93	136	138
	112	98	Apr-Jun		73	114	114

\* Thousands of Miners' Inches.

4/ Observed flow corrected for storage in Lake Keechelus.

5/ Observed flow corrected for storage in Keechelus, Kachess and Cle Elum Lakes and diversion by Kittitas Canal.

6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation and Sunnyside Canals.

7/ Observed flow corrected for storage in Lake Kachess.

8/ Observed flow corrected for storage in Lake Cle Elum.

9/ Observed flow corrected for storage in Bumping Lake.





# Streamflow Forecasts - March 1970 (Cont.)

Basin, Stream and Station	Forecast Runoff 1970	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr Avg	Fore- cast Period	1969	1968	1967	15-Yr. Average 1953-67
<u>Yakima River System (Cont.)</u>							
<u>American River</u>							
nr. Nile	124	96	Apr-Sep		98	128	129
	115	96	Apr-Jul		88	119	120
	99	100	Apr-Jun		78	100	99
<u>Tieton River</u>							
at Tieton Dam <u>10/</u>	240	95	Apr-Sep		166	241	251
	207	96	Apr-Jul		134	210	215
	168	98	Apr-Jun		111	169	172
<u>Naches River</u>							
nr. Naches <u>11/</u>	880	98	Apr-Sep		592	876	899
	810	99	Apr-Jul		511	810	819
	700	100	Apr-Jun		437	694	698
<u>Ahtanum Creeks</u>							
nr. Tampico <u>12/</u>	47	96	Apr-Sep		31	56	49
	43	96	Apr-Jul		27	52	45
	39	98	Apr-Jun		24	45	40
<u>Lower Columbia River System</u>							
<u>Mill Creek</u>							
nr. Walla Walla	33	114	Apr-Sep		15	23	29
	29	116	Apr-Jul		11	20	25
	27	117	Apr-Jun		10	18	23
<u>Lewis River</u>							
at Ariel <u>13/</u>	1360	100	Apr-Sep		1137	1107	1358
	1200	100	Apr-Jul		862	994	1197
	1070	101	Apr-Jun		782	889	1059
<u>Cowlitz River</u>							
at Castle Rock <u>14/</u>	2530	90	Apr-Sep		2381	2521	2813
	2230	90	Apr-Jul		1850	2258	2481
	1910	90	Apr-Jun		1630	1934	2119

## OLYMPIC PENINSULA

### Dungeness River System

#### Dungeness River

nr. Sequim	145	84	Apr-Sep		134	204	172
	121	86	Apr-Jul		107	169	141
	92	88	Apr-Jun		78	124	105

10/ Observed flow corrected for storage in Rimrock Lake

11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals and City of Yakima.

12/ Observed flow of North and South Forks (combined).

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.

14/ Observed flow corrected for storage in Mayfield Reservoir.



# COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about March 1, 1970, as per cent of the same date in 1969 and 1968 and average of record.

Tributary Basin	No. of Courses Average	Years of Record	1970 Snow Water Expressed as per cent of		
			1969	1968	1953-67
<u>UPPER COLUMBIA BASIN</u>					
Pend Oreille	4 - 12	6 - 33	71	111	95*
Kettle	12 - 14	7 - 32	58	88	86*
Colville	4 - 5	12	64	127	104*
Spokane	12 - 13	6 - 33	73	122	90*
Okanogan	29 - 30	5 - 35	72	98	86*
Methow	6	9 - 27	64	98	98*
Chelan	1	20	67	72	73*
Entiat	1 - 8	5 - 10	78	97	159*
Wenatchee	8 - 10	9 - 25	77	191	141*
Yakima	21 - 24	9 - 50	89	204	131*
Ahtanum	2	23 - 25	90	156	162*
<u>LOWER COLUMBIA</u>					
Mill Creek	1 - 3	15 - 16	61	460	96*
Klickitat	1	13	89	--	--
White Salmon	1 - 2	24	65	157	93*
Lewis	13 - 15	7 - 25	50	124	78*
Cowlitz	8 - 9	6 - 26	63	198	87*
<u>PUGET SOUND</u>					
Nisqually	3 - 4	5 - 13	71	201	76*
White	3	5 - 25	75	123	99
Green	5 - 6	8 - 24	60	315	82*
Cedar	4 - 5	11 - 19	36	412	70*
Snoqualmie	2 - 3	8 - 25	61	240	102*
Skykomish	2 - 3	11 - 25	70	207	106*
Skagit	12	13 - 23	59	104	72*
Nooksack	4 - 5	4	62	132	--
<u>OLYMPIC PENINSULA</u>					
Skokomish	4 - 5	6 - 11	56	88	86*
Elwha	1	16	47	87	66*
Dungeness	1	21	65	102	82*

\* Records of less than 15 years used on computation of average





# RESERVOIR STORAGE - 1000 Acre Feet

BASIN or STREAM	RESERVOIR	USABLE <sup>1/</sup> CAPACITY	1970	Measured (March)		Normal*
				1969	1968	
<u>COLUMBIA</u>						
Spokane	Coeur d'Alene Lake	225.1	148.1	85.0	339.7	149.4
Columbia	Franklin D. Roosevelt Lake	5232.0	3464.7	141.2	2353.4	2985.2
Columbia	Banks Lake	761.8	605.4	720.3	717.6	511.7
Okanogan	Conconully Reservoir	13.0	7.4	4.7	7.0	6.1
Okanogan	Salmon Lake	10.5	7.6	6.3	9.0	8.5
Chelan	Lake Chelan	676.1	96.7	166.2	437.0	243.7
<u>YAKIMA</u>						
Yakima	Keechelus Lake	157.8	59.6	96.5	152.7	99.0
Kachess	Kachess Lake	239.0	169.6	183.8	234.2	178.5
Cle Elum	Lake Cle Elum	436.9	171.8	262.9	398.0	266.0
Bumping	Bumping Lake	33.7	7.2	2.8	28.0	11.0
Tieton	Rimrock Lake	198.0	89.0	149.2	176.4	124.1
<u>PUGET SOUND</u>						
Skagit	Ross Reservoir	1202.9	725.1	616.9	1227.6	851.6
Skagit	Diablo Reservoir	90.6	85.3	87.8	84.2	85.9
Skagit	Gorge Reservoir	9.8	8.3	8.1	8.2	--

1/ Based on Active Storage

\* 15-year average 1953-67





# SOIL MOISTURE - MARCH

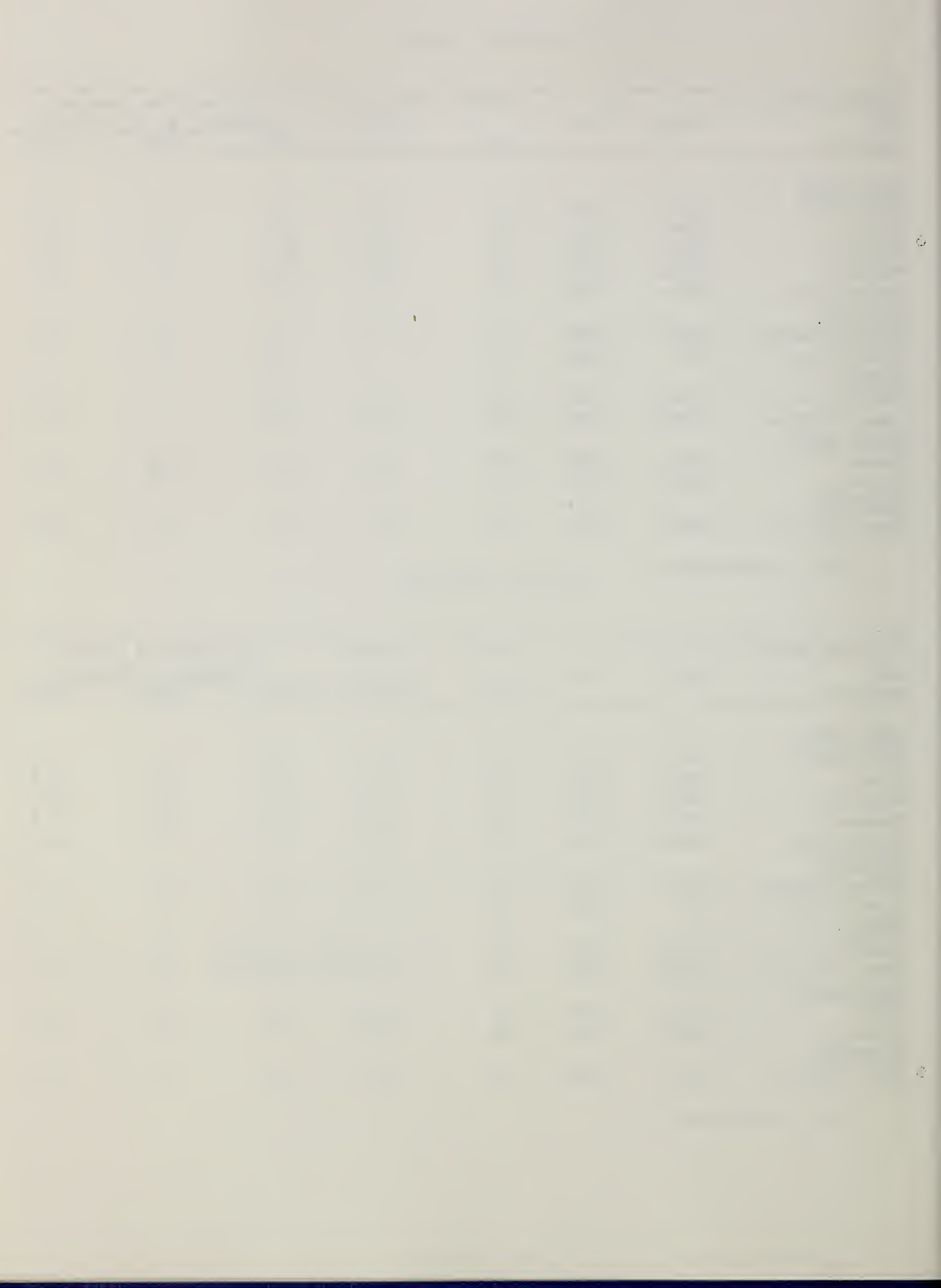
Drainage Basin and Station	Number	Elev.	Profile Depth	(Inches) :	Soil Moisture Content		
				Total :	(Inches) as of Mar. 1		
				Capacity :	1970	1969	1968
<u>CRAB CREEK</u>							
Jack Woods	18B3m	2600	48	13.6	9.4	7.9	9.9
Krause	18B4m	2440	48	13.6	9.0	8.1	6.6
Sheffels	18B5m	2360	48	13.6	8.4	5.8	9.9
Sherman	18B7m	2440	48	13.6	8.9	6.1	8.1
Wheatridge	18B6m	2200	48	13.6	9.8	7.0	8.2
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	2.4	3.0	2.9
Trout Creek	3-M	3600	48	7.3	3.3*	3.3	4.1
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	6.0	--	5.0
Lake Cle Elum	21B14M	2200	48	12.8	9.2	--	9.2
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	10.5	10.4	7.4
Helmers	17C2M	4400	48	12.0	10.9	10.6	11.4
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	7.1	8.9	13.0

\* Feb 1 measurement

## FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	(Inches) :	Soil Moisture Content		
				Total :	(Inches) as of Oct. 1		
				Capacity :	1969	1968	1967
<u>CRAB CREEK</u>							
Jack Woods	18B3m	2600	48	13.6	7.5	7.1	5.2
Krause	18B4m	2440	48	13.6	5.9	5.2	4.9
Sheffels	18B5m	2360	48	13.6	4.5	4.9	3.7
Sherman	18B7m	2440	48	13.6	4.2	3.9	3.6
Wheatridge	18B6m	2200	48	13.6	5.4	4.6	4.0
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	2.7	2.7	1.5
Trout Creek	3-M	3600	48	7.3	3.8*	4.1	4.0
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	Not Available	3.1	4.8
Lake Cle Elum	21B14M	2200	48	12.8	Not Available	5.2	9.1
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	6.1	7.4	5.4
Helmers	17C2M	4400	48	12.0	7.1	7.6	6.7
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	9.8	5.5	5.6

\* Nov 1 measurement



# PRECIPITATION 1/

## Division Averages and Departures

Drainage Divisions	FALL		WINTER	
	Sep - Oct	1969 <u>2/</u>	Nov - 1969	Feb - 1970 <u>2/</u>
	Average	Departure	Average	Departure
Columbia in Canada	4.73	+0.84	7.97	-3.22
Pend Oreille - Spokane	3.81	-0.07	13.83	-1.65
Northeastern Washington	2.91	+0.66	8.80	-0.65
Southeastern Washington	2.56	-0.09	11.91	+1.57
Central Washington	3.83	-0.61	21.15	-2.53
North Central Washington	2.02	+0.61	5.25	-0.29
Northwest Slope Cascades	12.20	+0.53	34.74	-9.77
Southwest Slope Cascades	9.55	+1.83	32.53	-1.96

Northeastern Washington	- Lower Spokane, Colville, Sanpoil and lower Kettle drainages.
Southeastern Washington	- Touchet, Tucannon and Palouse drainages.
Central Washington	- Yakima, Wenatchee and Chelan drainages.
North Central Washington	- Methow and Okanogan drainages.
Northwest Slope Cascades	- Puget Sound drainages.
Southwest Slope Cascades	- Lower Columbia drainages.

1/ - Preliminary analysis by U. S. Weather Bureau from data furnished by Meteorological Services of Canada and U. S. Weather Bureau.

2/ - Departure from 15-year(1953-67) drainage division average.

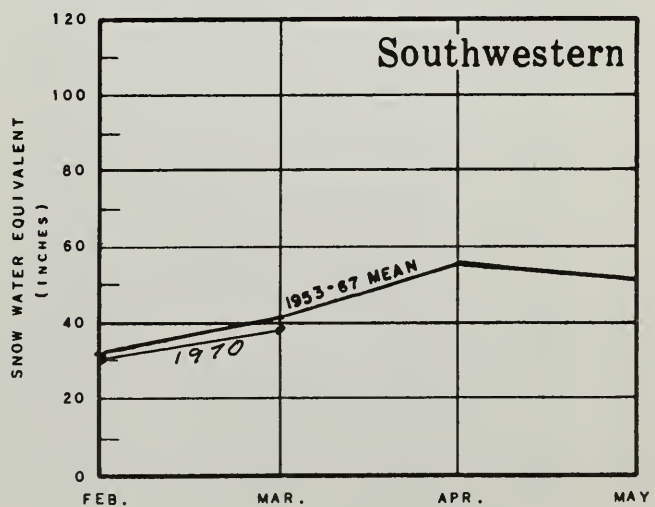
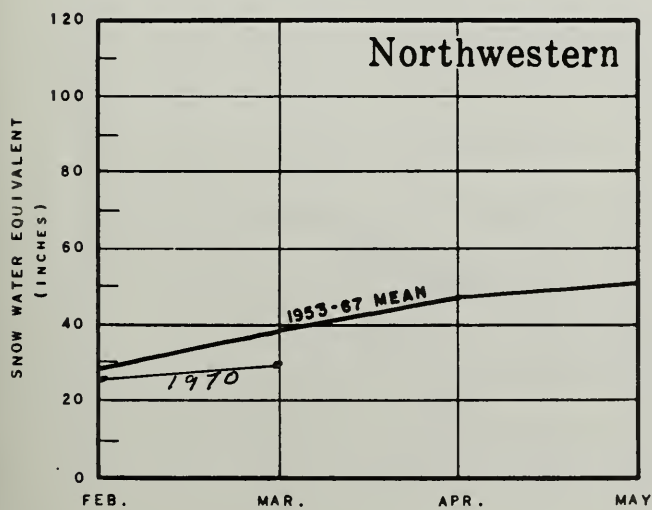
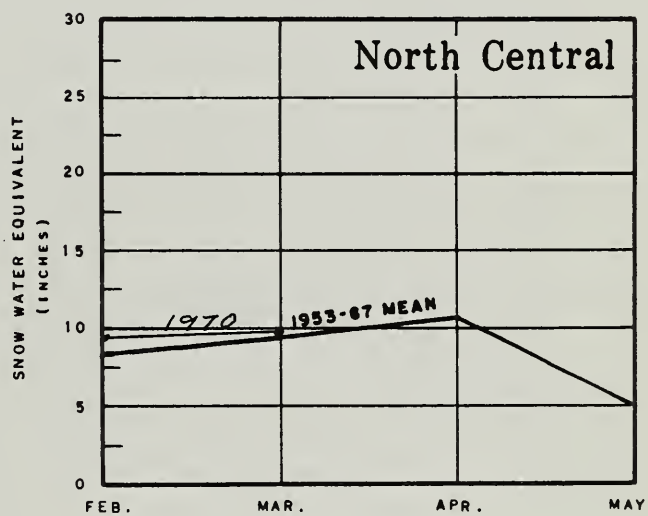
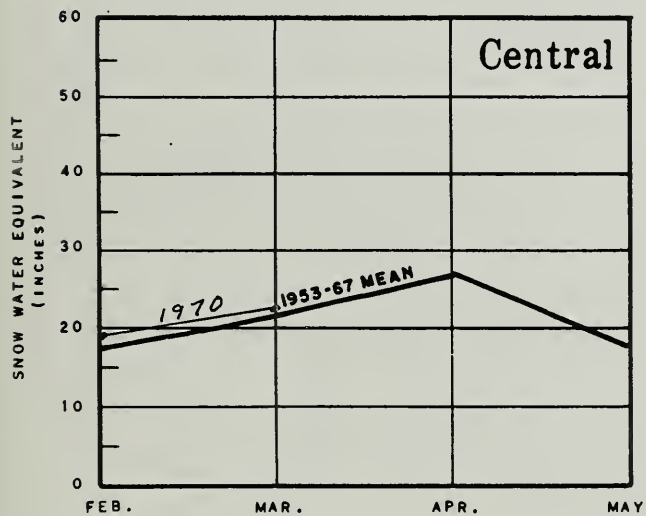
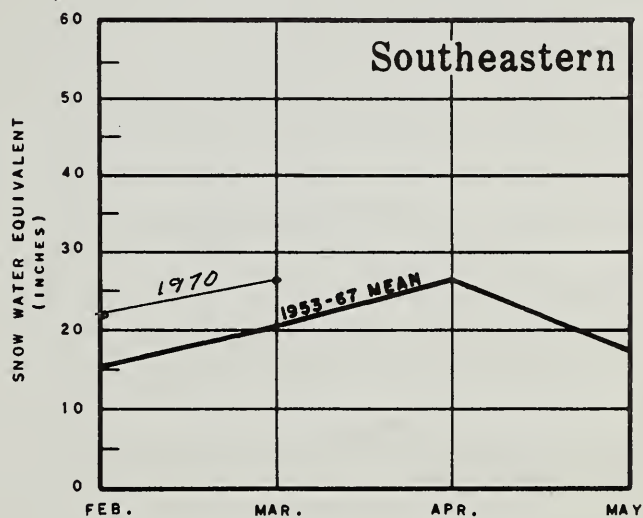
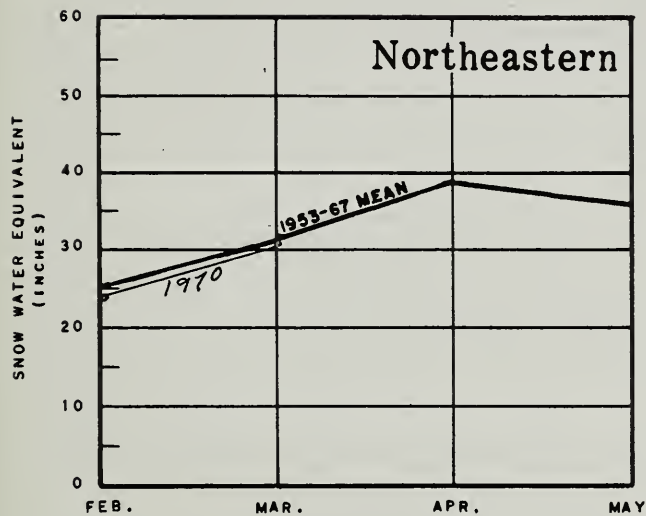




# WASHINGTON SNOW COVER

1970

## DRAINAGE AREAS

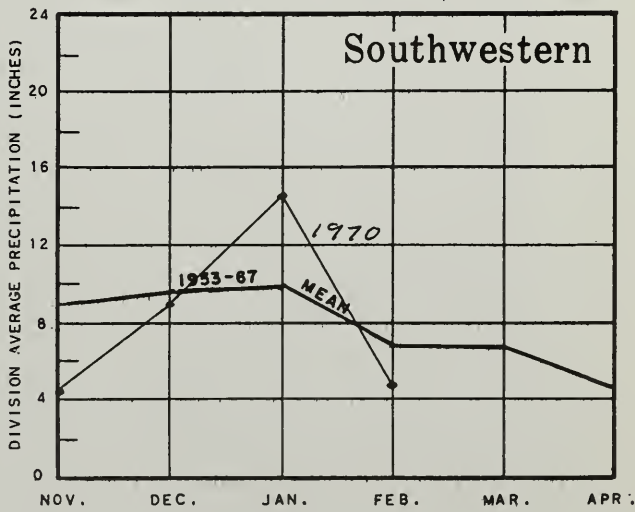
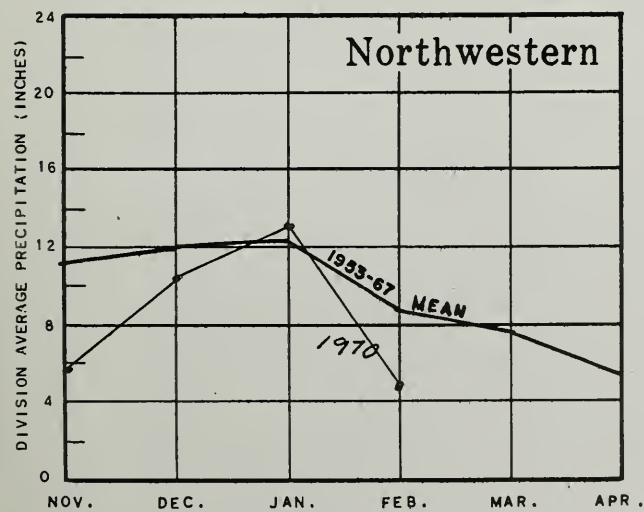
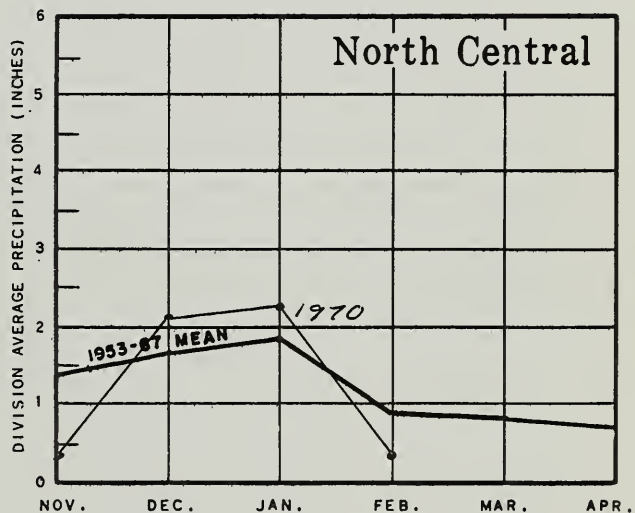
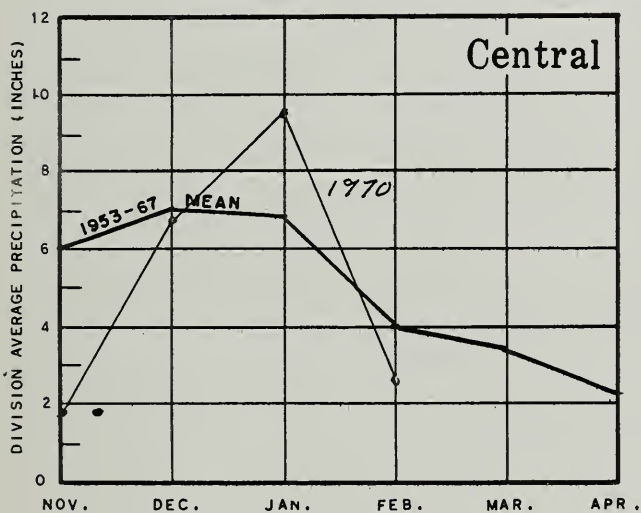
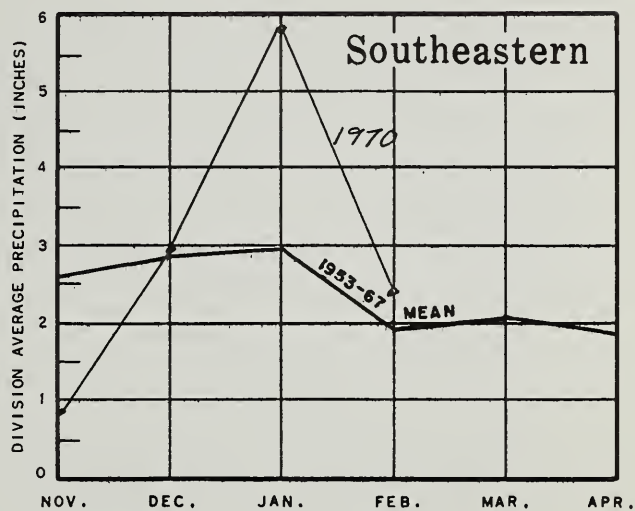
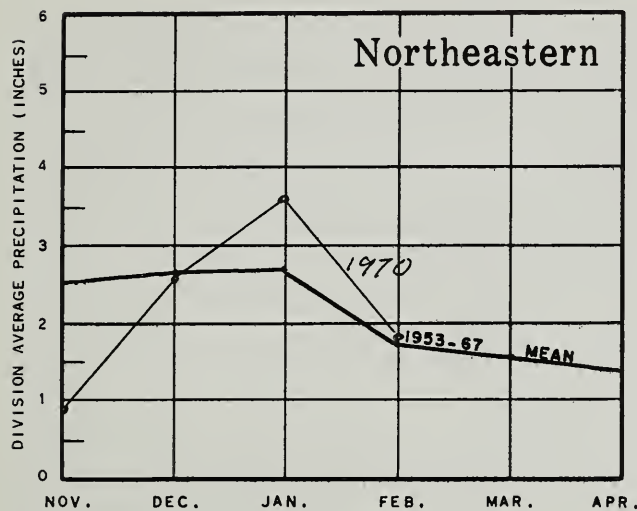




# WASHINGTON VALLEY PRECIPITATION

1969-1970

## DRAINAGE AREAS



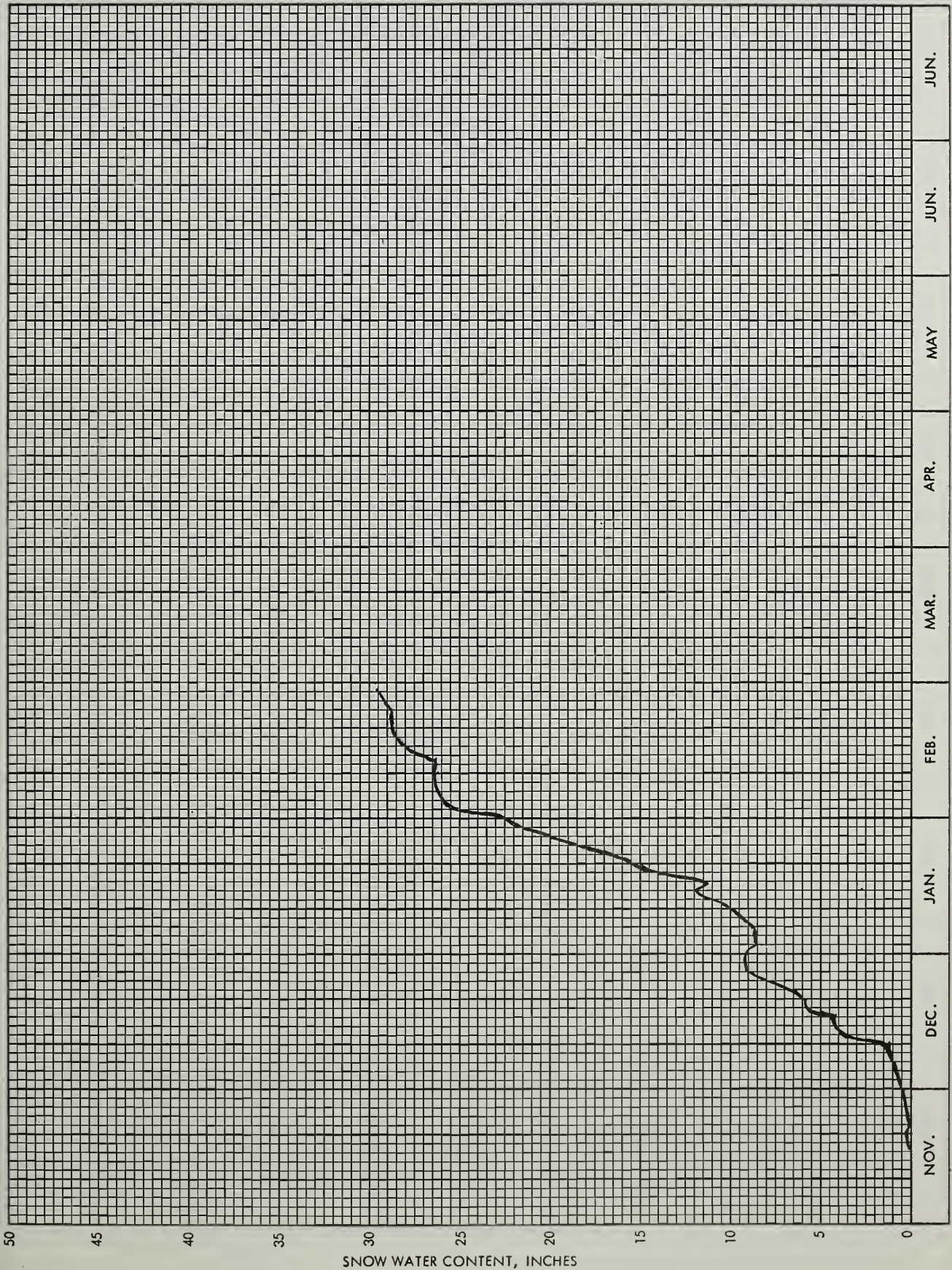




# SNOW PILLOW DATA

Berne-Mill Creek

Sec. 13 T. 26N R. 14E No. 21B41SF Drainage: Wenatchee River  
 Lat. 47° 46' Long. 121° 01' Elev. 3170'





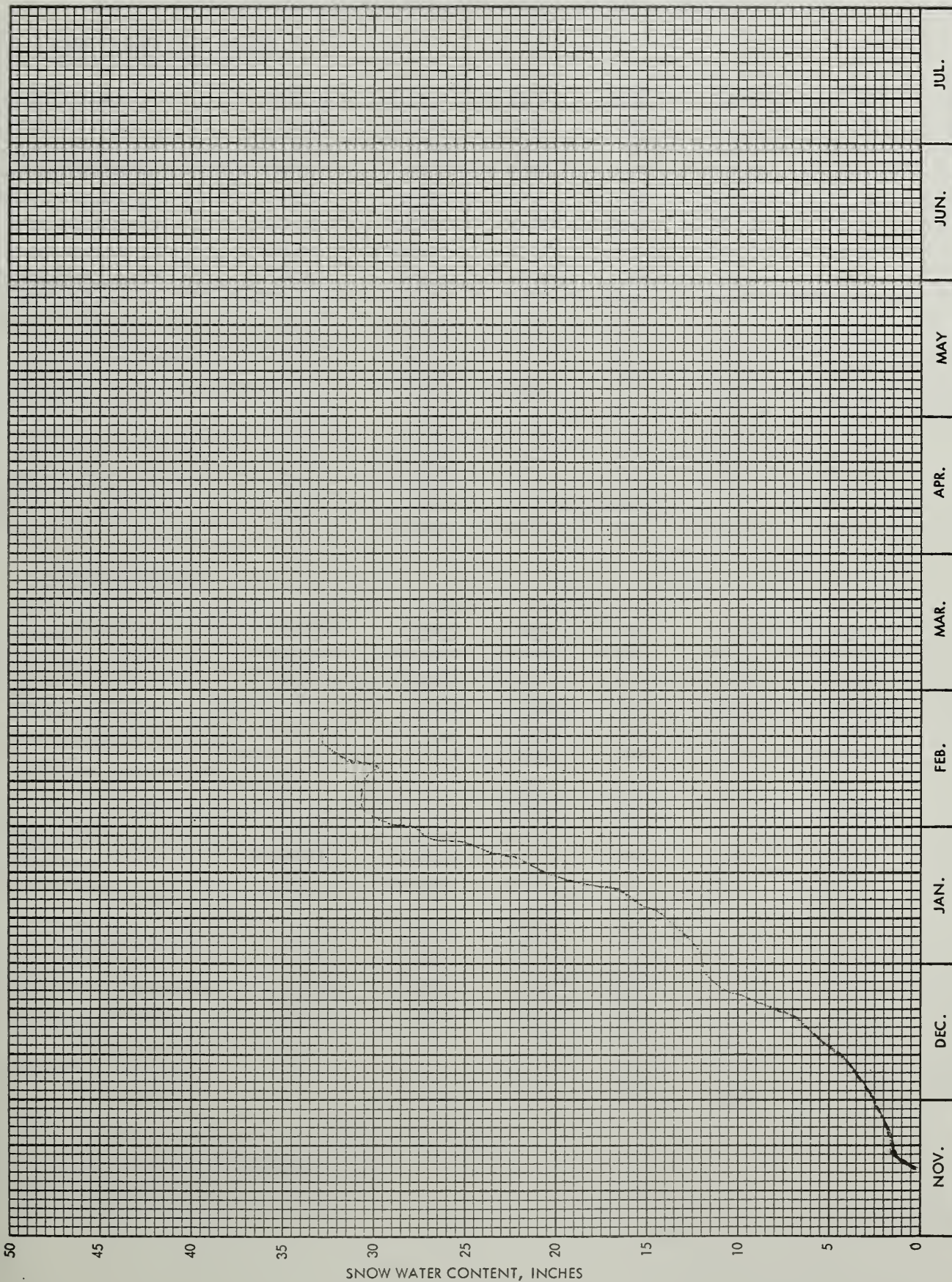


# SNOW PILLOW DATA

Snowshoe Butte - FS

Sec. 28 T. 21N R. 9E No. 21B43SF Drainage: Green River

Lat. 47° 13' Long. 111° 22' Elev. 5000'







SNOW DATA FEBRUARY 1 to MARCH 1, 1970

**SNOW**

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	No.	Elevation				Last Year	Average †

U P P E R C O L U M B I A D R A I N A G E

PEND OREILLE RIVER

Baree Creek	15B11	5500	3/1	105	38.0	47.6	--
Baree Midway	15B16	4600	3/1	94	31.0	35.9	--
Baree Trail	15B15	3800	3/1	37	12.0	18.5	--
Benton Meadow	16A2	2344	2/24	25	8.8	12.1	5.8
Benton Spring	16A3	4900	3/2	66	19.0	23.3	18.2
Boyer Mountain	17A2	5250	2/27	68	22.8	32.7	23.4
Brush Creek	14A4	5000	2/25	36	10.0	15.2	11.7
#Chewelah	17A4	4925	2/28	50	14.1	21.3	16.5*
Hoodo Basin	15C10	6000	2/27	109	39.3	51.5	--
Hoodo Creek	15C1	6200	2/27	106	37.7	47.8	42.9*
Hart Lake Trail	14C10	4800	2/27	50	15.8	24.4	20.2*
Lookout	15B2	5250	3/2	104	31.9	41.3	32.3
Mosquito Ridge	16A4A	5100	2/26	110	38.4	39.8	33.8*
Nelson	Canada	3050	2/27	40	12.1	21.3	15.5
Schweitzer Bowl	16A6	4500	2/27	79	25.7	33.8	--
Schweitzer Ridge	16A5	6100	2/27	96	33.5	56.2	--
Smith Creek	16A1	4800	Not Measured		--	--	--
Winchester Creek	17A3	2970	2/27	42	13.3	18.6	11.5*

KETTLE RIVER

Barnes Creek	Canada	5500	2/25	40	11.3	16.7	18.4**
Big White Mountain	Canada	5500	2/28	38	12.5	20.8	18.2**
Boulder Road	18A2	1450	2/9	14	4.3	9.4	4.3*
			2/24	12	4.0	9.9	3.5*
Butte Creek	18A3	4070	2/9	26	6.7	13.1	8.1*
			2/24	28	8.3	14.6	8.7*
Cabin Creek	18A8	3170	2/9	24	6.3	12.0	7.5*
			2/24	26	7.7	12.5	7.7*
Carmi	Canada	4100	2/28	19	5.3	8.8	5.9**
Farron	Canada	4000	3/2	38	10.7	20.9	12.5
Goat Creek	18A4	3595	2/9	24	6.6	10.9	6.9*
			2/24	20	6.9	11.8	6.6*
Lower Trapping Cr.	Canada	3050	2/28	13	4.0	7.2	5.1**
#Monashee Pass	Canada	4500	2/25	27	7.3	10.7	13.1**
Old Glory Mountain	Canada	7000	2/28	53	17.1	33.1	24.3
Snow Caps Creek	18A5	2150	2/9	18	5.0	9.2	4.6*
			2/24	14	4.5	10.0	4.2*
Snow Caps Trail	18A6	2720	2/9	20	5.2	9.6	6.1*
			2/24	18	6.4	11.1	6.1*

# Not located directly on this drainage

\* Adjusted 1953-67 average

\*\* Average for years of record

+ 1953-67 period



## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation					Last Year	Average †

KETTLE RIVER (Cont.)

Summit G. S.	18A7	4600	2/9	22	5.7	9.6	8.0*
			2/24	24	6.6	12.0	8.3*
Upper Trapping Cr.	Canada		2/28	24	6.5	9.5	8.7**

COLVILLE RIVER

Baird	17A6	3215	3/1	27	7.6	10.6	7.0*
Carlson	18A9	2885	3/1	19	5.0	9.9	4.8*
Chewelah	17A4	4925	2/28	50	14.1	21.3	16.5*
Stranger Mountain	17A5	4990	2/28	48	13.7	20.0	12.4*
Togo	18A10	3370	3/1	37	10.4	16.7	9.4*

SPOKANE RIVER

Above Burke	15B8	4100	2/19	53	17.1	--	--
Copper Ridge	16B2	4800	2/26	70	24.8	32.2	26.0
Forty-nine Meadows	15B3	5000	2/25	74	24.2	36.1	28.6*
Fourth of July Summit	16B3	3100	3/2	38	9.5	16.2	10.5*
Granite Peak	15B13A	6000	2/25	102	33.2	45.0	41.8*
Kellogg Peak +	16B5A	5560	Not Measured			39.1	28.2*
#Lookout	15B2	5250	3/2	104	31.9	41.3	32.3
Lost Lake	15B14A	6000	2/25	128	46.6	63.7	53.6*
Lower Sands Creek	16B1	3400	2/26	51	17.6	22.7	17.8
Medicine Ridge	15B4A	6150	2/25	104	34.0	45.3	43.6*
#Mosquito Ridge +	16A4A	5110	2/26	110	38.4	39.8	33.8*
Outlaw Creek	15B12A	3750	2/25	38	11.2	20.1	13.7*
Roland Summit +	15B5A	5200	2/26	85	29.7	37.2	34.6*
Sherwin	16C1	3200	2/28	34	11.1	17.8	14.1*
Sunset +	15B9A	5600	2/26	87	30.4	40.5	29.9*

OKANOGAN RIVER

Aberdeen Lake	Canada	4300	2/27	16	5.6	6.9	6.2**
Blackwall Mountain	Canada	6250	2/27	64	23.7	30.2	31.2**
Bouleau Creek	Canada	5000	2/28	29	8.9	--	10.2**
Brookmere	Canada	3200	2/27	29	7.7	8.0	8.7
Carrs Landing Lower	Canada	2250	3/1	9	1.7	4.6	--
Carrs Landing Upper	Canada	3200	3/1	18	5.1	6.0	--
Clark +	19A8a	7000	Late report			19.8	--
Copper Mountain	Canada	4300	2/22	20	6.1	5.9	5.8**
Enderby	Canada	6250	2/25	79	27.4	38.0	32.4**
#Freezeout Meadows	20A2	5000	2/24	33	10.0	25.4	28.2
Hamilton Hill	Canada	4900	2/21	39	12.7	14.3	13.4**

+ Snow water equivalent estimated from aerial stadia observation

# Not located directly on this drainage

\* Adjusted 1953-67 average

\*\* Average for years of record

+ 1953-67 period





## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation					Last Year	Average †

OKANOGAN RIVER (Cont.)

#Harts Pass	20A5A	6500	2/25	85	29.9	42.4	38.5
#Horseshoe Basin +	19A5a	7000	Late report			20.5	11.6*
Isintok Lake	Canada	5510	2/28	18	4.9	6.6	6.9**
Lost Horse Mountain	Canada	6300	2/27	24	4.8	6.6	7.8**
#Loup Loup	19A7	4650	2/26	28	9.9	16.4	8.9*
McCulloch	Canada	4200	2/26	20	5.0	7.8	6.1
Missezula Mountain	Canada	5100	2/27	23	6.2	7.5	8.8**
Mission Creek	Canada	6000	2/28	38	11.1	21.1	17.2**
Monashee Pass	Canada	4500	2/25	27	7.3	10.7	13.1**
Mount Kobau	Canada	5950	2/24	34	10.8	14.3	12.2**
Muckamuck +	19A9a	6390	Late report			20.4	--
Mutton Creek No. 1	19A1	5700	2/26	33	12.0	20.6	12.3
Mutton Creek No. 2	19A4	6000	2/26	34	12.2	18.9	12.7
New Copper Mountain	Canada	4300	2/20	23	6.8	7.0	5.3**
Nickel Plate Mountain	Canada	6200	2/27	27	5.9	6.1	6.9
Paysayten +	20A28a	4300	2/18	47	14.1	--	--
			Late report			18.7	14.2*
Postill Lake	Canada	4500	2/27	24	6.5	8.0	7.1
#Quartette Lake	Canada	4000	Not Measured			13.1	--
Rusty Creek	19A3	4000	2/26	24	7.3	12.2	7.0
Salmon Meadows	19A2	4500	2/26	30	9.8	13.6	9.7
Silver Star Mountain	Canada	6050	2/27	52	18.1	32.8	23.0**
Starvation Mountain +	19A10	6750	Late report			23.4	--
Summerland Reservoir	Canada	4200	3/1	23	6.7	8.7	8.3**
Touts Coulee	19A6	2845	2/26	15	4.3	7.4	3.7*
Trout Creek	Canada	4700	2/27	21	5.5	7.0	6.5
White Rocks Mountain	Canada	6000	2/26	46	15.3	20.5	18.1**
Brenda Mine	Canada	4800	2/25	30	9.2	--	--

METHOW RIVER

Billy Goat Pass +	20A10a	6409	Late report			37.4	25.8*
Dollar Watch +	20A29a	7000	Late report			28.1	23.7*
Harts Pass	20A5A	6500	2/25	85	29.9	42.4	38.5
Horseshoe Basin +	19A5a	7000	Late report			20.5	11.6*
Loup Loup	19A7	4650	2/26	28	9.9	16.4	8.9*
#Mutton Creek No. 1	19A1	5700	2/26	33	12.0	20.6	12.3
#Mutton Creek No. 2	19A4	6000	2/26	34	12.2	18.9	12.7
#Rusty Creek	19A3	4000	2/26	24	7.3	12.2	7.0
#Salmon Meadows	19A2	4500	2/26	30	9.8	13.6	9.7
#War Creek Pass +	20A31a	6500	2/18	99	29.7	--	--
			Late report			42.5	--

+ Snow water equivalent estimated from aerial stadia observations

# Not located directly on this drainage

\* Adjusted 1953-67 average

\*\* Average for years of record

+ 1953-67 period



## APPENDIX 4

## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	No.	Elevation				Last Year	Average †
<u>CHELAN LAKE BASIN</u>							
Cloudy Pass +	20A22a	6500	2/18	86	25.8	--	--
			Late report			46.7	34.9*
Greenwood Flat +	20A25a	3540	2/18	74	22.2	--	--
			Late report			--	21.4*
Little Meadows +	20A24a	5275	2/18	121	36.3	--	--
			Late report			53.2	37.5*
Lyman Lake	20A23A	5900	Not Measured			62.3	50.3*
Park Creek Flat +	20A13a	2220	2/18	76	22.8	--	--
			Late report			29.6	31.0*
Park Creek Ridge	20A12A	4600	2/18	140	42.0	--	--
			Late report			52.1	41.7*
Petersons +	20A16a	3730	2/18	78	24.4	--	--
			Late report			31.1	32.5*
Rainy Pass	20A9	4780	2/25	80	27.0	40.2	37.0
Safety Harbor	20A30A	6300	2/18	65	19.5	--	--
			Late report			35.3	--
War Creek Pass +	20A31a	6500	2/18	99	29.7	--	--
			Late report			42.5	--

ENTIAT RIVER

Brief	20B19	1600	2/25	27	10.0	13.4	6.3*
Entiat Meadows +	20A33a	4800	2/24	102	34.0	47.4	--
Entiat River Trail +	20A34a	3150	2/24	58	19.7	25.4	--
Fox Camp +	20A36a	6510	2/24	134	44.2	57.4	--
Pope Ridge	20B20	4300	2/25	50	16.8	25.6	--
Pugh Ridge +	20A32a	6400	2/24	103	34.0	34.4	--
Shady Pass	20A37	5000	2/26	57	19.0	--	--
Snow Brushy +	20A35a	3850	2/24	93	30.7	39.1	--
Tommy Creek +	20B21a	5300	2/24	70	23.1	30.7	--

WENATCHEE RIVER

Berne-Mill Creek	21B23	2925	2/13	72	25.5	37.2	24.0*
			2/27	75	28.3	36.8	23.9*
Berne-Mill Creek New	21B41SP	3240	2/27	71	28.6	33.2	--
Blewett Pass No. 2	20B2	4270	2/27	52	19.1	22.7	13.8
Chiwaukum G. S.	20B16	1810	2/13	46	14.2	17.4	10.5*
			2/27	42	16.2	17.4	10.5*
#Fish Lake	21B4	3371	2/25	80	31.1	36.8	31.7*
Lake Wenatchee	20B5	1970	2/13	44	14.1	20.4	13.0*
			2/27	38	14.7	21.0	13.4*

+ Snow water equivalent estimated from aerial stadia observations

\* Adjusted 1953-67 average

# Not located directly on this drainage

+ 1953-67 period





## APPENDIX 5

## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation					Last Year	Average †

WENATCHEE RIVER (Cont.)

Leavenworth R. S.	20B17	1127	2/13	27	9.5	13.0	4.3*
			2/26	17	7.3	13.8	2.6*
#Lyman Lake	20A23A	5900	Not Measured			62.3	50.3*
Merritt	20B18	2140	2/13	49	17.4	26.0	14.6*
			2/27	44	17.8	25.8	13.7*
Stevens Pass	21B1	4070	2/13	115	42.0	55.2	40.3
			2/27	115	43.9	57.9	44.4
Stevens Pass Sand Shed	21B45	3700	2/13	86	29.6	45.0	--
			2/27	85	32.6	44.2	--

SQUILCHUCK CREEK

Beehive Springs	20B3	4400	2/25	34	12.3	16.4	6.5*
Scout-A-Vista	20B4	3400	2/25	34	11.7	15.5	7.0*

STEMILT CREEK

Jump-Off	20B8	4450	2/25	39	12.4	15.4	6.8*
Stemilt Slide	20B6	5000	2/24	47	14.4	20.0	12.6*
Upper Wheeler	20B7	4400	2/24	39	13.6	18.8	8.5*

COLOCKUM CREEK

Colockum Creek Upper	20B22	5300	2/25	47	16.8	21.2	--
Colockum Creek Lower	20B23	4300	2/25	38	13.8	17.5	--

YAKIMA RIVER

#Ahtanum R. S.	21C11	3100	2/24	31	11.2	13.2	5.9*
Big Boulder Creek	21B9	3200	2/25	62	23.0	24.6	18.5*
#Blewett Pass No. 2	20B2	4270	2/27	52	19.1	22.7	13.8
Bumping Lake	21C8	3450	2/18	64	25.1	20.8	15.3*
			3/2	60	25.2	20.6	17.4
Bumping Lake New	21C36	3400	2/18	72	28.2	24.6	--
			3/2	67	27.9	24.0	--
#Cayuse Pass	21C6	5300	2/24	165	63.0	83.5	71.6*
Colockum Pass	20B9	5370	2/26	55	19.7	20.5	14.9*
Cooke Creek	20B10	4123	2/26	26	10.0	6.8	5.6*
#Corral Pass	21C13	6000	2/26	85	30.7	47.0	33.2*
Fish Lake	21B4	3371	2/25	80	31.1	36.8	31.7*
Green Lake	21C10	6000	2/24	92	34.3	36.2	25.7*
Grouse Camp	20B11	5385	2/27	52	19.5	20.7	16.1*
High Creek	20B12	2930	2/27	24	8.0	9.4	5.1*

+ Snow water equivalent estimated from aerial stadia observations

# Not located directly on this drainage

\* Adjusted 1953-67 average

+ 1953-67 period

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## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	No.	Elevation				Last Year	Average †

YAKIMA RIVER (Cont.)

Joe Lake +	21B46a	4624	2/24	147	55.9	70.5	--
Lake Cle Elum	21B14M	2200	2/12	35	12.1	17.6	8.5*
			2/28	29	12.2	18.2	8.5
Lemah Creek +	21B47a	3327	2/24	120	45.6	50.8	--
Manashtash	20C1	3935	2/25	27	9.6	9.4	4.0*
Morse Lake	21C17	5400	2/25	133	54.5	64.2	47.0*
Nanum	21B39	2340	2/27	37	12.8	11.5	9.8*
#Olallie Meadows	21B2	3625	2/25	85	37.3	52.1	40.4
#Satus Pass	20D1	4030	2/27	34	12.8	14.4	--
#Stampede Pass	21B10	3000	2/16	107	37.6	60.0	--
			3/2	99	33.6	67.5	38.4
Trail Creek	20B14	3360	2/26	0	0.0	6.0	--
Tunnel Avenue	21B8	2450	2/12	54	19.0	29.9	20.2*
			2/27	56	21.8	30.6	21.6
Walters Flat	20B15	3360	2/27	28	9.8	11.0	6.6*
Waptus Lake +	21B49a	3024	2/24	114	43.3	--	--
White Pass (E. Side)	21C28	4500	2/13	61	21.7	30.0	21.5*
			2/27	64	24.1	30.9	21.1*
White Pass (L. Lake)	21C27	4500	2/13	68	26.2	37.5	22.6*
			2/27	75	30.3	37.4	26.1*

AHTANUM CREEK

Ahtanum R. S.	21C11	3100	2/24	31	11.2	13.2	5.9*
#Green Lake	21C10	6000	2/24	92	34.3	36.2	25.7*

LOWER COLUMBIA DRAINAGEASOTIN CREEK

Spruce Springs	17C4	5700	2/25	62	23.9	30.2	--
----------------	------	------	------	----	------	------	----

MILL CREEK

Homestead	17C1	4030	2/27	12	5.2	17.6	7.4*
Martin Springs	17C2	4400	2/27	29	11.6	21.6	12.5*
Tollgate	18D3M	5070	2/25	65	26.2	26.7	21.0

WHITE SALMON RIVER

Cultus Creek	21C12	4000	2/24	91	35.4	56.1	38.9*
#Surprise Lakes	21C13A	4250	2/24	92	39.8	59.1	42.0

+ Snow water equivalent estimated from aerial stadia observations

# Not located directly on this drainage

\* Adjusted 1953-67 average

1953-67 period





## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation					Last Year	Average †

KLICKITAT RIVER

Satus Pass	20D1	4030	2/27	34	12.8	14.4	--
West Fork Cabin	21C15	3000	Not Measured			--	7.9*

WIND RIVER

#Old Man Pass	21D19	3100	2/24	25	9.6	35.3	15.8*
---------------	-------	------	------	----	-----	------	-------

LEWIS RIVER

Blue Lake +	21C22a	4800	2/24	175	76.6	88.0	70.4*
Bob's Trail	21C21	2200	2/24	14	5.6	27.5	12.4*
Calamity Ridge +	22D1a	2500	2/24	0	0.0	26.9	--
Council Pass +	21C18a	4200	2/24	84	31.9	46.4	34.8*
#Cultus Creek	21C12	4000	2/24	91	35.4	56.1	38.9*
Divide Meadow +	21C29a	5600	2/24	114	43.3	53.8	47.7*
Grand Meadow	21C25	3500	2/24	51	19.2	31.7	22.9*
Lone Pine Shelter	21C26	3800	2/24	75	26.9	47.4	31.4*
Marble Mountain +	22C5a	3200	2/24	28	12.0	55.9	--
#Mosquito Meadows	21C19	4100	2/24	77	27.7	44.4	34.4
New Muddy River	22C6	1400	2/24	0	0.0	29.6	--
Old Man Pass	21D19	3100	2/24	25	9.6	35.3	15.8*
Plains of Abraham +	22C1a	4400	2/24	183	78.8	83.2	55.7*
Smith Creek Road	22C4	2100	2/25	30	13.2	39.4	13.9*
Spencer Meadow +	21C20a	3400	2/24	24	9.6	38.0	20.5*
Surprise Lakes	21C13A	4250	2/24	92	39.8	59.1	42.0
Table Mountain +	21C24a	4200	2/24	105	38.8	51.2	40.6*
Timbered Peak +	21D18a	3000	2/24	6	2.5	39.4	16.4*

COWLITZ RIVER

Cayuse Pass	21C6	5300	2/24	165	63.0	83.5	71.6*
Mosquito Meadows	21C19	4100	2/24	77	27.7	44.4	34.4*
Ohanapecosh	21C32	2200	2/27	26	10.5	21.6	14.8*
Packwood Lake	21C31	2870	2/25	16	6.2	22.0	12.0*
Pigtail Peak	21C33	5900	2/13	112	43.1	71.1	--
			2/27	116	44.3	65.8	--
#Plains of Abraham +	22C1a	4400	2/24	183	78.8	83.2	55.7*
Potato Hill	21C14	4500	2/25	72	27.6	41.9	25.7*
#White Pass (E. Side)	21C28	4500	2/13	61	21.7	30.0	21.5*
			2/27	64	24.1	30.9	21.1*

+ Snow water equivalent estimated from aerial stadia observations

# Not located directly on this drainage

\* Adjusted 1953-67 average

1953-67 average



## APPENDIX 8

## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	No.	Elevation				Last Year	Average †

COWLITZ RIVER (Cont.)

#White Pass (L. Lake)	21C27	4500	2/13	68	26.2	37.5	22.6*
			2/27	75	30.3	37.4	26.1*
Willame Creek	21C30	3250	2/24	48	18.0	31.3	27.0*

PUGET SOUND DRAINAGENISQUALLY RIVER

Ghost Forest	21C4	4550	2/26	78	33.3	46.2	38.8*
Longmire	21C3	2760	2/26	12	4.2	16.2	8.4*
New Paradise Park	21C35	5500	2/26	141	59.8	57.6	--
Stem Glade	21C1	5050	2/26	131	54.3	66.6	59.4*

WHITE RIVER

#Cayuse Pass	21C6	5300	2/24	165	63.0	83.5	71.6*
Corral Pass	21C13	6000	2/26	85	30.7	47.0	33.2*
#Morse Lake	21C17	5400	2/25	133	54.5	64.2	47.0*
White River Campgr	21C34	4000	Not Measured			--	--

GREEN RIVER

Airstrip	21B24	1800	2/24	0	0.0	13.9	--
Charley Creek	21B25	1200	2/24	0	0.0	9.0	--
Grass Mtn No. 2	21B27	2900	2/26	40	15.1	31.2	18.1*
Grass Mtn No. 3	21B28	2100	2/26	0	0.00	20.6	--
Lester Creek	21B29	3100	2/26	52	18.0	32.1	20.7*
Lynn Lake	21B50	4000	2/24	27	11.1	New Course	
Sawmill Ridge	21B29	4700	2/26	69	24.6	37.8	36.5*
Snowshoe Butte SP	21B43SP	5000	2/25	116	39.4	64.0	--
Stampede Pass	21B10	3000	2/16	107	37.6	60.0	34.8
			3/2	99	33.6	67.5	38.4
Twin Camp	21B30	4100	2/26	57	21.3	26.2	24.9*

CEDAR RIVER

City Cabin	21B3	2390	2/26	27	11.1	29.8	14.8*
Mt. Gardner	21B21	3300	2/26	16	7.4	32.0	15.4*
Mt. Lindsay	21B16	2500	2/26	23	8.4	29.2	12.9*
Mt. Washington	21B15	3000	2/26	0	0.0	19.7	7.2*
Rex River	21B17	2400	2/26	0	0.0	16.2	12.1*
S. F. Cedar	21B6	3000	2/26	23	10.1	33.6	19.2*
Tinkham Creek	21B20	3400	2/26	56	22.8	38.6	20.6*

# Not located directly on this drainage

\* Adjusted 1953-67 average

+ 1953-67 period



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## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	No.	Elevation				Last Year	Average †

SNOQUALMIE RIVER

Alpine Meadow	21B48	3500	2/25	69	28.6	57.6	--
#Lake Elizabeth	21B19	2900	2/25	91	37.5	61.2	33.1*
Olallie Meadows	21B2	3625	2/25	85	37.3	52.1	40.4
S. F. Tolt	21B18	1900	2/25	0	0.0	18.4	--

SKYKOMISH RIVER

Lake Elizabeth	21B19	2900	2/25	91	37.5	61.2	33.1*
#Stevens Pass	21B1	4070	2/13	115	42.0	55.2	40.3
			2/27	115	43.9	57.9	44.4
#Stevens Pass Sand Shed	21B45	3700	2/13	86	29.6	45.0	--
			2/27	85	32.6	44.2	--

SKAGIT RIVER

Beaver Creek Trail	21A4	2200	2/24	23	8.3	22.8	14.0*
Beaver Pass	21A1	3680	2/24	67	23.9	40.9	29.3*
#Cloudy Pass +	20A22a	6500	2/18	86	25.8	--	--
						46.7	34.9*
Devils Park	20A4	5900	2/25	80	28.6	38.2	39.1
Freezeout Cr. Trail	20A1	3500	2/24	33	10.0	14.6	12.6
Freezeout Meadows	20A2	5000	2/24	55	19.3	25.4	28.2
#Harts Pass	20A5A	6500	2/25	85	29.9	42.4	38.5
Klesilkwa	Canada	3700	2/28	26	6.7	14.3	11.2
Lake Hozomeen	21A2	2600	2/24	24	6.9	12.6	9.0*
#Lyman Lake +	20A23A	5900	Not Measured			62.3	50.3*
Meadow Cabins	20A8	1900	2/25	10	3.9	11.2	7.2*
New Tashme	Canada	2500	3/1	28	8.3	14.6	9.9
Quartette Lake	Canada	4000	Not Measured			13.1	--
#Rainy Pass	20A9	4780	2/25	80	27.0	40.2	37.0
Thunder Basin	20A7	4200	2/25	48	16.4	25.2	20.5*
Brown Top +			2/24	115	40.2	New Marker	

BAKER RIVER

Baker Pass +	21A11A	3800	Late report			73.6	64.4*
						69.3	65.3*
Easy Pass +	21A7A	5200	Late report			66.4	--
						67.2	82.1*
Jasper Pass +	21A6A	5400	Late report			93.6	77.3*
						87.4	87.3*

# Not located directly on this drainage

+ Snow water equivalent estimated from aerial stadia observations

\* Adjusted 1953-67 average

+ 1953-67 period

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## SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	No.	Elevation				Last Year	Average †

BAKER RIVER (Cont.)

Marten Lake +	21A9A	3600	Late report			76.4	--
						79.0	73.3*
Mount Blum +	21A18a	5800	Late report			51.6	--
						53.3	--
#Panorama New	21A26	4300	2/12	102	44.0	68.0	--
			2/27	109	47.8	64.7	--
Rocky Creek +	21A12A	2100	Late report			39.6	26.2*
						39.0	23.3*
Schreibers Meadow +	21A10A	3400	Late report			65.6	55.9*
						65.5	58.1*
S. F. Thunder Creek +	21A14A	2200	Late report			21.6	--
						20.2	4.5*
Watson Lakes +	21A8A	4500	Late report			64.0	59.8*
						65.9	61.3*

NOOKSACK RIVER

Bald Mountain +	21A19a	4400	3/1	82	32.0	54.8	--
Canyon +	21A20a	5100	3/1	92	35.9	58.8	--
Glacier Creek	21A23	3700	2/25	39	12.5	29.1	--
Panorama New	21A26	4300	2/12	102	44.0	68.0	--
			2/27	109	47.8	64.7	--
Twin Lakes +	21A21a	5200	3/1	141	55.0	76.0	--

O L Y M P I C P E N I N S U L ADUNGENESS RIVER

Deer Park	23B4	5200	2/25	50	17.0	26.2	20.8
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MORSE CREEK

Cox Valley	23B14	4500	2/26	82	29.8	46.1	--
Deer Park G. S.	23B13	4850	2/25	25	7.8	17.8	--

ELWHA RIVER

Hurricane	23B3	4500	2/27	45	14.3	30.2	21.8*
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# Not located directly on this drainage

+ Snow water equivalent estimated from aerial stadia observations

\* Adjusted 1953-67 average

+ 1953-67 period





## APPENDIX 11

**SNOW**

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	No.	Elevation				Last Year	Average †

SKOKOMISH RIVER

Black & White	23B7	4200	2/24	66	24.6	48.0	32.3*
Black & White Lakes	23B6	4700	2/24	103	45.8	62.6	49.4*
Four Streams	23B10	3000	2/24	38	13.7	44.7	--
Home Sweet Home	23B5	5200	2/24	135	52.9	78.3	64.2*
Sundown Pass	23B8	3900	2/24	98	41.7	73.2	45.4*

\* Adjusted 1953-67 average

+ 1953-67 period



# Agencies Assisting with Snow Surveys

## GOVERNMENT AGENCIES

### Canada:

Department of Lands, Forests and Water Resources,  
Water Resources Service, British Columbia

### States:

Washington State Department of Water Resources  
Washington State Department of Natural Resources

### Federal:

Department of the Army  
Corps of Engineers  
U. S. Department of Agriculture  
Forest Service  
U. S. Department of Commerce  
Weather Bureau  
U. S. Department of the Interior  
Bonneville Power Administration  
Bureau of Reclamation  
Geological Survey  
National Park Service

## PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.  
Pacific Power and Light Company  
Puget Sound Power and Light Company  
Washington Water Power Company

## OTHER PUBLIC AGENCIES

Okanogan Irrigation District  
Wenatchee Heights Irrigation District

## MUNICIPALITIES

City of Walla Walla  
City of Tacoma  
City of Seattle

*Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.*



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